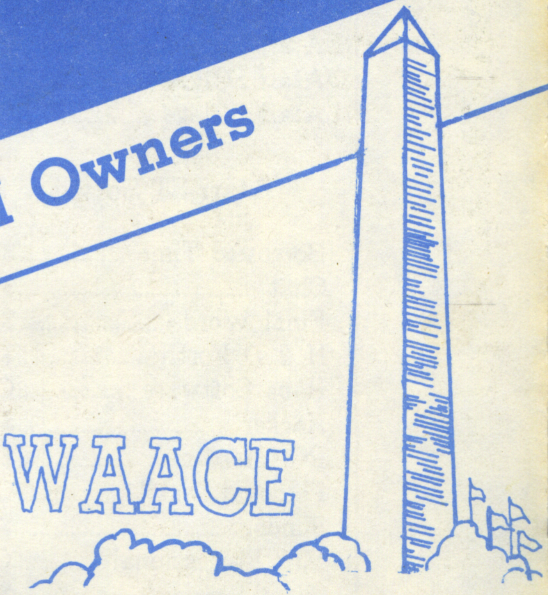
March 1986 $2.25

CURRENT NOTES

The Newsletter For ATARI Owners




```
Program March()
BEGIN
  Read (Kyan PASCAL);               Write (1st WORD)
  Read (OSS Personal PASCAL);       Write (REGENT WORD);
  For j :: 1 to 7;                  Write (SpeedScript 3)
    Read (Club News);               Play (Turtle Game);
  End ;                               :
                                   END
```

THE WASHINGTON AREA ATARI COMPUTER ENTHUSIASTS

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March, 1986

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Managing Editor: Joe Waters
XE/XL Editor: Jack Holtzhauer
ST Editor: Frank Sommers
Circulation: Ed Seward
Columnists: M. Evan Brooks, Mark Brown, Jack Holtzhauer, Bob Kelly, George Langworthy, Jim Stevenson, Susan Wolff.

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The Editor of CURRENT NOTES is Joe Waters, 122 N. Johnson Road, Sterling, Virginia 22170. (703) 430-1215. Submissions of articles or advertising copy, subscription requests or back-issue orders should be sent to the editor. Deadline date for articles and advertisements is the **12th day** of the preceeding month.

Editorial:

Last year Atari was named the number one computer in West Germany. I predict that this year, Atari will be named the number one computer in the United States. The quantity, and quality, of software is growing by leaps and bounds. This new software is written to run on the ST, but soon you will see the CP/M emulator and the IBM emulator (there is even rumors of a Mac emulator in France) bring the quantity of available software to incredible proportions. Additional hardware enhancements planned for this year will only strengthen Atari's position in the market. And remember, almost nobody knows the ST exists, yet STs are selling as quickly as they can be shipped. As ST info continues to spread (there was even a nice notice in the Capital PC Monitor suggesting that members who got an ST for Christmas might want to look up CURRENT NOTES and WAACE!), more people will become aware of the ST's value and sales will remain strong.

Atari's strength is not limited to the 16-bit line. The 130XE is also selling extremely well. Power options for the older Atari computers are now becoming increasingly popular. The humble 800s are being expanded to quarter-meg machines, compatible with the 130XE, with ramdisks giving all the functionality of a second disk drive. Atari peripherals are also experienceing a comeback. Modems are particularly hot items. One retailer tells me he could sell 30 XM301 modems a day if he could get them! ICD's new P:R:Connection (replacement for the Atari 850 interface) will soon arrive and it will sell like hotcakes. Remember the Indus CPM enhancement? That will be out next month giving the Indus owner an extra 64K, CP/M, and an increase in disk drive I/O about 12 times that of a standard drive. All in all, it's going to be an interesting year for Atari fans!

How about WAACE fans? Hopefully it will be an interesting year for us as well. I have been talking with several of the club librarians. We are attempting to developed a central WAACE library that will make available the <u>best</u> of each club's public domain library, not only to reader's of CURRENT NOTES, but to all club members at their local meetings.

I have also been actively exploring the idea of setting up a central WAACE bulletin board. It would be run on an ST thus providing much better response time than is usual on an 8-bit BBS, and, with a 20 megabyte hard disk, would have much more room available for messages and download files. It is our intention to have a system, ultimately, which supports multiple phone lines to facilitate access to the BBS. The system would be funded by an annual fee (perhaps $10/year) to help pay for equipment and phone costs.

What do you think about these ideas? Pass your thoughts onto your club officers. Let them know what you think. Let them know what you would like to have happen.

Joe Waters

WUN February Report

By Joe Waters

As scheduled, the WUN board met on February 13th, the second Thursday of the month. As the first order of business, to accomodate some individual schedules, the normal meeting time was changed from the second Thursday to the first Wednesday. I'm sure most of you will be reading this notice <u>after</u> the March meeting. Hopefully, though, things will settle down now to a regular schedule.

Last month, I suggested Atari might want to use the WUN base to release "official" statements answering the manys questions that often fill the electronic airwaves. I prepared a list of questions and sent them to Neil Harris just prior to the February meeting. Neil, in turn, passed them on to Sam Tramiel. I have not received the response yet, but when it is ready, I am sure it will be uploaded to CompuServe. CURRENT NOTES will reprint the answers regularly, but anyone, of course, is free to look at the responses whenver they are posted.

One of my questions dealt with the departure of Dave Duberman, the Atari User Group Coordinator. Neil did respond at the board meeting about this issue assuring everyone that Dave had left of his own volition to go on to a more lucrative position. At the moment, Atari is anxiously seeking a replacement to carry on Dave's duties.

The second item on the agenda was the establishment of a WUN-sponsored library of high-quality "free" software. The idea is to serve as a focal point for collecting the best that is available for "free" distribution, including public domain offerings, copyrighted material provided "free", and share-ware products. The disks would be made available to anyone requesting them, but the primarily focus of the effort would be to provide these disks to participating clubs. The clubs, in turn, could then put the software in their own club libraries. Income received from a WUN library could be used to support WUN activities without the "users" having to rely on financial assistance from Atari or other third party vendors. ANTIC offered to make available some of their public domain software and Atari could provide some of the fantastic demos that appear regularly at trade shows. The "idea" was favorably received and we decided to use the ensuing month to debate and discuss methods of implementation.

The final item on the agenda dealt with the relationship of third party vendors to WUN. It was suggested that Atari developers could use the World Users Network as a means of communicating important information to users. For example, companies could use the download area to provide information on bug fixes, product revisions, and update policies. The users would love to hear about new products as well, but this conflicts with the "no advertising" policy on CompuServe. The debate on this topic will also continue. Anyone interested is invited to add their thoughts on these or any other topics to the WUN message base.

Letters to the Editor

Dear Joe,

As a long-time gamer, I would like to take exception to two mini-reviews published earlier.

Mr. Holtzhauer's New Products (Nov 85) characterizes **Karateka** as "a lot of unnecessary bother", and goes on to state that a .45 automatic would render the whole concept unnecessary. While the latter statement is true, a tactical nuclear weapon would have rendered Wellington's defense at Waterloo unnecessary. The important question is whether or not the game accomplishes its task in an interesting and novel fashion. **Karateka** definitely does; the karate-like movements and actions of the characters render this one of the more interesting arcadetype games, and one to be highly recommended.

Mr. Gabeler's Game Views (Feb 86) characterizes **Kennedy Approach** as a prime example of non-entertainment. This writer vehemently and strenuously disagrees. Yes, the program does have a built-in stress factor. But isn't suspense a basic concept of entertainment. This writer boots up **Kennedy Approach** whenever the opportunity permits. While most of my time is devoted to wargaming, such games often take hours to play. Therefore, what to do when only a short time is available? **Kennedy Approach**!! The realism and the suspense are unbeatable; the only criticism this writer can offer is the lack of a save function for continuation of sessions and a propensity for the program to crash at certain times. Otherwise, this writer regards the simulation as one of the best games ever done, and a "must have" for any serious gamer whose attention span and concentration cover a wider gamut than the **Space Invaders** ilk.

Thank you.

Sincerely,
M. Evan Brooks

Dear Joe,

The February issue was excellent. Congratulations on the improved quality and quantity in the last year.

The review of **The Final Word** was exactly the kind of thing we need, an examination of what is good and not good about the product after a thorough tryout. In particular, I hope that all future software reviews will include a report on whether the program is copy-protected, and whether it uses the GEM interface, and how suitable it is for desktop publishing.

Considering that a lot of the early ST software seems to be ported over from other machines, it might be a good idea to check with the manufacturer and ask whether they plan an update that actually uses the GEM interface, and if so when we can expect to see it. Running the ST without the user-friendly interface is quite unattractive to me.

Having said that, let me contradict myself. The most fascinating rumor this issue was about the "magic box" that is to provide IBM compatibility for the ST for those of us who work in an IBM environment. If somebody can produce such a device for only $200, it will change the image of the ST dramatically by giving it access to the biggest small computer software base that is still active.

What I would like to know is whether the developers of this device have planned to let the user get the benefits of the GEM system plus that software? After all, DRI designed GEM for the IBM PC to begin with. I suspect not, since Mark of the Unicorn was unable to run **The Final Word** through the ST with the GEM system working automatically for them, but this would be a good thing for anyone with a contact to the developers to check out.

I wish Atari had prepared and promoted the kind of standardized guidelines for software development that Apple did for the MacIntosh. I am worried by the fact that major programs are coming out for the ST that feel free to ignore GEM and use nonstandardized command structures. It is not too late for Atari to start promoting a more user-friendly attitude toward the user in the industry, however, and it is time for the user groups to get on Atari's case on that. Getting DRI to join in by getting those GEM guides out to developers would help greatly, too.

John T. Sapienza, Jr.
Washington, D.C.

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ATARI SCUTTLEBITS

by Bob Kelly

There is a growing concern on the part of many Atari users that the software developers are soon to desert the 800/130XE market. Several users have requested my opinion/analysis of this issue. So, here we go.

Some users ask, why should anyone pay attention to this rumor in the first place. These individuals assert "is it not true that roughly 2 million Atari 8 bit computers have been sold since 1979"? My response to this question; they are absolutely correct. Is it not true that the 130XE is selling well at present? Again, I respond positively. They immediately hone in for the kill. Is it not obvious! The size of the market alone will influence major software firms to continue producing quality commercial programs for the Atari 8 bit line.

Having waited patiently for this last statement, I reply. Consider the case of all those CP/M computers (Kaypro, Osborne, Televideo, etc.). Almost none of the new major commercial software programs marketed over the past two years have been produced for CP/M machines. Why is it that one of the largest Osborne clubs in the nation now sells more IBM public domain programs than CP/M programs? You got it! CP/M is no longer the preferred operating system, MSDOS is. CP/M is 8 bit and memory limited, MSDOS is faster and not as memory limited. In simple terms, new members were not being attracted to the user group and this was the only way to grow while holding on to the existing membership base.

Think for a moment: have you, as a serious Atari user, considered what happens if Tramiel sells 40,000 STs a month plus making available the Black Box (IBM compatibility) within the next six months? It is quite possible that next year Atari clubs will be hawking IBM public domain programs in their libraries for use with the ST.

If you have followed the argument to this point, you now have an elementary feel for the scenario which many software developers consider the likely outcome. The major question for the software firms is how they can best position themselves to sell in this evolving/unstable market. Now, you also know why the 8 bit user is getting squeezed out. Under this view of the future, the 800/130XE user is a relic. As the Romans once said "convert or die". Is there anything the 8 bit owner can do about this situation? Are the software firms the only ones that can shape the future of the 8 bit Atari market? Is the scenario described above the only reasonable depiction of the future? To begin to answer these questions, let me tell you of a meeting I participated in recently.

The meeting was attended by most of the Atari user group presidents in the area representing a total membership of over 1,000. The most interesting conversation that evening began when several club presidents stated they would continue only as 8-bit users groups. I was frankly surprised by these statements. I fully understand user loyalty to, say, Atari as opposed to Commodore. It simply did not occur to me that such a strong loyalty would also extend to the 8-bit machines. Of course, the considerable investment in hardware and software is a strong motivational force for these users groups to remain "8-bit pure". Those espousing this view felt to accommodate the new ST users, special interest groups or new clubs should be formed. Obviously, some Atari users are prepared to "die rather than convert".

Needless to say, this is a dangerous attitude for users to have not only from Atari and Jack Tramiel's perspective. Who knows, Atari itself may be operating under the premise that all is ok in the software market since the 130XE is selling reasonably well. More to the point of this article, it indicates to me that some software developers may knowingly curtail development of new commercial programs for the 8 bit market. What they may not realize is by sacrificing potential sales in the 8 bit market, they could endanger their near term financial position in the process (people will not shift and purchase ST's as quickly as envisioned by software firms).

How can 800/130XE owners influence the software firms? One way to is for a positive public response to the few innovative software developers such as DATASOFT. They want original machine language programs to market. This is one sure way for users to indicate their preference for 8-bit machines by flooding DATASOFT with original creative programming gems. The number of programmers who respond is an indication of market interest.

Another way is for users to call or write and tell the developers you want to see their 8-bit line of products continued and/or expanded. The drawback to such a campaign is there is no way to gauge the number of calls/write-ins to software firms and in turn the effectiveness of any campaign.

In reality, the best hope for a strong commercial 8-bit software market is for Atari to be successful in selling its 8-bit machines. To achieve continued success with sales of the 130XE, Atari will have to develop mass market outlets as well as advertize. Without these outlets or if Atari pushes only the low cost ST's with the dealers -- say goodby to 8-bit commercial programs.

Forecast: This will be the last significant year for the Atari 8-bit machine. By Christmas 1986, Atari will be devoting almost all of its advertising efforts to the "mass market ST" and software developers will follow the leader. I do not like this any more than you.

One way to deal with this situation is to minimize your losses. This requires Atari to promptly develop that 8-bit emulator for the ST we have all been hearing about. This may help convince some who have a large 8-bit software library to "convert with less pain". This is only half a benefit in that you pay to move up to an ST but don't lose your investment in your 8-bit library. This alternative possibly could be a reality if the large user groups throughout the country would petition Atari directly (Hint - the world wide Users Network finally has something to do!!!). By the way, let's not forget the potential benefit to Atari in terms of increased ST

sales, limiting the backlash from 8-bit owners, and the economies of scale associated with a larger market for ST software developers.

Finally, I am glad Atari is talking IBM compatibility. It will increase sales, the utility of my yet to be purchased ST, and supply a fresh source of talent to Atari users groups everywhere. The ST possesses many technical characteristics that are superior to the IBM. However, to operate in a small business/corporate environment today, you simply have to have IBM software compatibility. Hopefully, it is only a matter of time before innovative software developers build upon the IBM connection and introduce small business/home finance program applications maximizing the ST's outstanding characteristics. Also, let's recognize that there will be a demand for IBM public domain programs by ST users. Atari libraries should service this demand. They will be an excellent addition to what will be a much larger supply of ST programs. This is called "converting and receiving a bonus."

Over the past several months, while conducting research for this column, I have found that neither I nor anyone else connected with Current Notes knows much about the composition of reader systems at home, in the work environment, or the likely direction future purchases will take, if any are in mind. Having discussed this situation with Joe Waters, the Editor, it was decided that a poll of the readers was in order.

This survey will be useful from the perspective of Current Notes by supplying information to better meet readers' needs. More importantly, it will supply critical data on one of the largest markets in the United States. Atari, as well as the software industry, pay attention when facts are available to support opinion. The circulation of the March edition of this newsletter is approximately 2,300. I hope for 1000 responses. Invest a few minutes of your time. The survey questions are listed below and the analysis of the results will be published in my June column. Mail your completed survey to: Bob Kelly, c/o CN Survey, 8309 Bella Vista Terr., Ft. Washington, Md. 20744

Survey

(please take your time - as they say garbage in equals garbage out)

1. Age: (A)0-18, (B)19-25, (C)26-35, (D)36-55, (E)56+................______
2. Income: (A)Student, (B)<$20K, (C) $20-$35K, (D)$35-55K, (E) $55K+..______
3. Employment: (A)Fed Govt, (B)State/ Local Gov (C)Small Business, (D) Corporation...............______
4. Years with present employer? _______
5. Present Home System:

- o Computer Model: __________________
- o Printer (name): __________________
- o Disk Drives (number):_______________
- o Monitor (Y/N):_____________________
- o Modem (name, baud):_________________
- o ATR8000 (Y/N):_____________________
- o Number of calls/month with modem? Business ________ Pleasure__________
- o Number of disks in library:_________
- o Three most frequently used programs:
  1________________________________
  2________________________________
  3________________________________
- o List your home computers in the order in which you purchased them:
  1st________________________________
  2nd________________________________
  3rd________________________________
  4th________________________________
- o Model of non-Atari computer you own (if any) ________________________
- o Approximate purchase price of hardware at home (nearest $100): __________

6. Computer System at Work:

- o Same as above________ None__________
- o mainframe,mini,micro?______________
- o Computer(model):___________________
- o Operating system: _________________
- o Modem (name, baud):_________________
- o Most frequently used programs:
  1________________________________
  2________________________________
  3________________________________

7. Future Purchase Plans for Home:

- o Atari (520/1040ST or 130XE):________
- o Disk drive(s),(number): ____________ Hard drive (y/n) _________________
- o Modem (name, baud):_________________
- o Printer(name, dot/daisy): ________________________________
- o Other equipment purchases (IBM,etc): ________________________________ ________________________________
- o Next three software purchases:
  1________________________________
  2________________________________
  3________________________________
- o Approximate monthly expenditure for software........... $______________
- o Your software source? (local store, mail order, friend)_______________

8. Please list your favorites:
   local store______________________
   mail order ______________________
   computer mag_____________________
9. Why did you choose Atari? (A) Price, (B) Performance, (C) Salesman, (D) Friend compatibility ______________
10. Programming

- o Do you program (y/n)_______________
- o Favorite Language__________________
- o If you were to learn a new language, what would it be?_________________

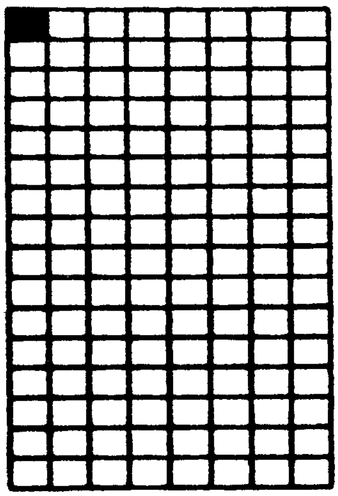
Learning Through Logo

by Susan Wolff

In the next several issues I thought I would introduce the steps to Atari Logo animation that children are learning in many elementary school classrooms.

Step 1. Changing the Shape of the Turtle. For those of you who have been delving into the world of turtles.....Did you know that the turtle's shape can be redesigned into anything your heart desires? How about a car, boat, person, or animal?

Atari Logo lets you edit the shape of the turtle by entering a shape editor. There are actually 15 shape editors. To get to the first editor type:

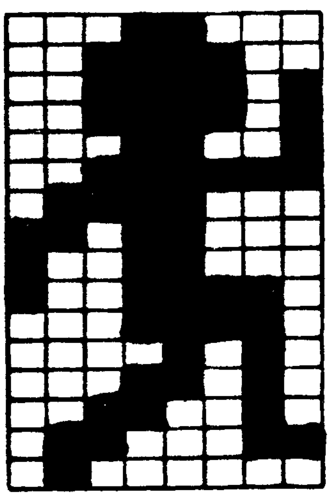


EDSH 1

and press return. An 8x16 grid should appear on the screen.

A cursor will be in the top left corner of the grid. Use the control and arrow keys to move the cursor around the grid.

To fill in a box press the space bar. To empty a filled box press the space bar again. Try filling in a design such as this one:



When you finish making a design press ESC to return to top level.

Now type:

TELL 0 SETSH 1 ST

This should cause turtle 0 to take on the shape in editor 1 (SETSH means SetShape) and Show Turtle if the turtle is not already showing.

You can give your new turtle all the same commands that you gave the original turtle. You will probably notice that although the new turtle can move in all directions, it does not rotate the way the original one does. It remains upright.

You can design additional shapes by typing:

EDSH 2
EDSH 3
EDSH 4

and so on up to EDSH 15.

Here's a review so far:

1) type: EDSH n
2) design a new turtle
3) press ESC
4) type: TELL 0 SETSH n

Actually, you can have up to 4 different turtles on the screen at one time by TELLing 1, 2, or 3 to SETSH n ST.

You can start the turtles moving with the SETSPeed command. Try typing:

TELL 0 SETSH 1 ST SETSP 50

Have fun playing with your turtles. The children at achool love to redesign turtles too. Next month I'll go over the second step: how to save your shapes in memory so you can use them again.

The Turtle Game

By Edward J. Wright

"Can I play the 'turtle' game?" is a common request from my three-year-old daughter. The "turtle game" is a short Logo program that she can use to make simple drawings on the screen. My two daughters have always been interested in the computer but they were both too young (a year ago they were 2 and 3) for the commercial software available. I decided to write a program they could use. The completed program is shown in listing one.

Logo was the logical choice for the computer language because the turtle graphics are powerful and easy to program. Several problems remained however. My first problem was finding an input device thar very young children can understand. They were too young for joysticks or the touch tablet (I tried those) and the younger one did not recognize letters. The solution was the arrow keys on the ATARI keyboard. By simple inspection they can choose and then press the arrow corresponding to the direction they wish to draw.

The procedure COMMAND is used to read a character from the keyboard (-,=,+,* corresponding to the arrow keys) and move the appropriate turtle around the screen. The first press of an arrow key turns the turtle in the correct direction. Subsequent presses of the same key cause the turtle to move forward. Other commands are "U" (pen up), "D" (pen down), "P" (screen dump), and "C" (clear screen - start over). Even my younger daughter quickly learned these few letters.

The use of the arrow keys presented a new problem. They are adjacent to the ATARI and the caps/lower key, where little fingers can easily press them. The LEGAL procedure converts lowercase or inverse characters to uppercase, normal characters so they can be matched by the IF statements in COMMAND. The PRINTDUMP procedure is for use with PRINTWIZ from Allen Macroware. Readers with other screen dump software must substitute the appropriate commands.

Another feature of the program is the ability to undo or erase ("E") drawing commands one at a time. This is accomplished by the procedures ADDCOM and UNDO and the list "CL. "CL is a Logo list which contains a record of each command and the turtle's heading when each command was issued. ADDCOM is used to add new commands to the list. UNDO is used to pull commands off the list and undo them. Note that it is not possible or necessary to "undo" the screen dump.

DRAW is the initialization procedure used to execute the program. The other procedures (UP, DWN, LFT, RGT, CLEAR) execute the arrow commands and clear the screen for a new start. The BREAK key is used to stop the program.

This program is easy to modify or extend. As my daughters have grown, I have added additional letter commands to give more control over the turtle graphics, choice of colors, and simple shapes.

```
TO COMMAND
MAKE "COM RC
MAKE "COM LEGAL :COM
IF :COM = "E [UNDO] [ADDCOM :COM]
IF :COM = "- [UP]
IF :COM = "= [DWN]
IF :COM = "+ [LFT]
IF :COM = "* [RGT]
IF :COM = "U [PENUP]
IF :COM = "D [PENDOWN]
IF :COM = "P [PRINTDMP]
IF :COM = "C [CLEAR]COMMAND
END

TO PRINTDMP
.CALL 8419
END

TO DRAW
CS FS PENDOWN
SETPC 0 72
MAKE "CL []
COMMAND
END

TO CLEAR
CS MAKE "CL []
 END

TO LEGAL :C
IF ( ASCII :C ) > 128 [MAKE "C CHAR ( ASCII : - 128 )]
IF ( ASCII :C ) > 96 [MAKE "C CHAR ( ASCII :C - 32 )]
OP :C
END

TO ADDCOM :C
MAKE "CL FPUT :C :CL
MAKE "CL FPUT HEADING :CL
IF ( COUNT :CL ) > 30 [MAKE "CL BL BL :CL]
END

TO UNDO
IF EMPTYP :CL [STOP]
MAKE "EC FIRST BF :CL
SETH 180 + FIRST BF :CL
IF PEN = "PD [PE MAKE "PNST 1] [MAKE "PNST 0]
IF :EC = "- [DWN]
IF :EC = "= [UP]
IF :EC = "+ [RGT]
IF :EC = "* [LFT]
MAKE "CL BF BF :CL
IF :PNST = 1 [PENDOWN] [PENUP]
IF :EC = "U [PENDOWN]
IF :EC = "D [PENUP]
END

TO RGT
IF HEADING = 90 [FD 10] [SETH 90]
END

TO LFT
IF HEADING = 270 [FD 10] [SETH 270]
END

TO UP
IF HEADING = 0 [FD 10] [SETH 0]
END

TO DWN
IF HEADING = 180 [FD 10] [SETH 180]
END
```

Atari's Small Miracles

by Mark A. Brown

Welcome back to Atari's Small Miracles, the column giving short, instructive, and perhaps useful programs anybody can type into their computer in a matter of minutes. There is no real theme this month, just a little of everything, a grab bag, a potpourri. Enjoy them!

LOWRCASE

The first program this month is a utility. The way the Atari character set is arranged, capital letters, numbers, and symbols can be displayed in the large text modes (GRAPHICS 1&2), but not the lowercase letters needed to make text more readable and nicer to look at. LOWRCASE redefines the character set, eliminating symbols and numbers and replacing them with lowercase letters. To use them, type the letters you want capitalized with the CTRL key and the lowercase in lowercase letters.

There are enough symbols left over so that if you really want to, you can define them as the numbers, but they are scattered over the set and would probably be useless for the usual purposes.

```
10 GRAPHICS 2:FOR A=1 TO 20:READ B:? #
6;CHR$(B);:NEXT A:DIM F$(1024):F=INT(A
DR(F$)/512)*512+512:POKE 756,F/256
20 FOR Y=0 TO 3:FOR X=0 TO 15:POKE PEE
K(88)+256*PEEK(89)+42+20*Y+X,16*Y+X:NE
XT X:NEXT Y:FOR X=0 TO 7:POKE F+X,0
30 POKE F+X,0:NEXT X:FOR X=8 TO 255:PO
KE F+X,PEEK(57600+X):NEXT X:FOR X=256
TO 512:POKE F+X,PEEK(57856+X):NEXT X
40 DATA 32,20,104,105,115,32,105,115,3
2,97,32,14,5,1,20,32,115,101,116,32
```

SUBLIMNL

Subliminal messages are powerful things. They (supposedly) are messages that so quickly displayed that we can't see them, but our subconscious does. They achieved fame when some resourceful advertisers used them to sell products. That is now illegal. However, in the privacy of your own home, with your own home computer, and with SUBLIMNL, you can use subliminal messages to do all sorts of useful things. When it asks for a message, type in something like "YOU ARE VERY RELAXED/YOU FEEL NO TENSION", and you should relaxed in a matter of minutes. Want to stop smoking? Type in "SMOKING TASTES TERRIBLE" and it just might help. Make your messages as direct as you can, subtlety and euphemisms get you nowhere.

SUBLIMNL works by printing the message you gave every two seconds in big text for a very short time. You have to be looking at the computer when the messages come up. It's not like you can run the program then go do housework. You could put a subliminal message on, then do some programming, play around with some programs, and so on.

SUBLIMNL is only an experiment. If it profoundly affects your life let me know, but it comes with no guarantees. The interval of the message is short, but still noticable, so it might not affect you. It just gives me a headache. If it works on you though, take care. Subliminal messages have made people do strange things. Look for references to the original "Omen" movie and its hidden messages to frighten the audience for an example.

```
10 OPEN #1,12,0,"E:":? #1;"  Sublimina
l suggestion - Input now  ":POKE 82,10
:POKE 83,29:? #1:DIM A$(75)
20 INPUT #1;A$:FOR A=1 TO LEN(A$):GOSU
B 70:POKE 1663+A,B:NEXT A:FOR A=LEN(A$
)+1 TO 41:POKE 1663+A,0:NEXT A
25 FOR A=1 TO 75:READ B:POKE 1535+A,B:
NEXT A:POKE 82,2:POKE 83,39:CLOSE #1:G
RAPHICS 0:A=USR(1536)
30 ? "}Message now activated":? "Wait
a few seconds...":END :DATA 104,169,6,
170,160,9,76,92,228,206,72,6,240
50 DATA 5,48,27,76,95,228,173,48,2,141
,73,6,173,49,2,141,74,6,169,62,141,48,
2,169,6,141,49,2,208,229,173,73
60 DATA 6,141,48,2,173,74,6,141,49,2,1
69,120,141,72,6,208,210,112,112,112,71
,128,6,7,65,62,6,1,0,0
70 B=ASC(A$(A,A)):B=B+32*(B>=32 AND B<
=95)+64*(B>=0 AND B<=31):RETURN
```

WALLS

And finally the most fun program this month, WALLS. After being run, WALLS draws in a blue border and gives control over to you. Use your cursor in the middle and a joystick to draw all the walls you want on the screen. Big ones, little ones, crossing ones, bending ones, etc. They have to be either horizontal or vertical (no diagonal), but other than that its up to you. Then press the START button. A white ball will bounce around in the boundries and walls you drew, leaving a trail as it goes. Stupid as it might sound, it really is a lot of fun. When you're tired of watching that ball in that pattern, press the OPTION key to start all over again.

```
10 CLR :GRAPHICS 23:COLOR 2:POKE 709,1
48:DIM S(15,2):FOR Z=5 TO 15:READ X,Y:
S(Z,1)=X:S(Z,2)=Y:NEXT Z:K=53279:X=80
20 Y=48:PLOT 0,0:DRAWTO 159,0:DRAWTO 1
59,95:DRAWTO 0,95:DRAWTO 0,0:FOR A=1 T
O 9999:COLOR 2:PLOT X,Y:Z=STICK(0)
30 COLOR 1-STRIG(0):PLOT X,Y:X=X+S(Z,1
):Y=Y+S(Z,2):X=X-(X>157)+(X<2):Y=Y+(Y<
2)-(Y>93):IF PEEK(K)<>6 THEN NEXT A
40 X=80:Y=48:COLOR 3:M=1:N=1:COLOR 3:P
OKE 710,15:DATA 0,0,0,0,1,0,0,0,0,0,0,
0,-1,0,0,0,0,1,0,-1,0,0
50 LOCATE X+M,Y,Z:M=M*(Z=0 OR Z=3)+(Z=
1 OR Z=2)*(-M):LOCATE X,Y+N,Z:N=N*(Z=0
 OR Z=3)+(Z=1 OR Z=2)*(-N)
60 X=X+M:Y=Y+N:PLOT X,Y:POKE 77,0:ON (
PEEK(K)=3)+1 GOTO 50,10
```

AUTOMAKE

An AUTORUN.SYS file is a very handy thing to have. It allows a disk to automatically run a program when the disk is first booted up. It's nicer still when you realize that Commodore doesn't have one. Unfortunately, it must be in machine language. AUTOMAKE writes a machine language program that will execute one line of BASIC for you when you boot up, making the AUTORUN.SYS file accessible to the rest of us. This line could be as simple as RUN"D:MENU" or could be a very complex one line program. You could use the line to reset the screen colors, set up a graphic display, play a (very) short tune, or anything that can fit in one line. In any event, type in the line you want executed at the prompt and AUTOMAKE will write the file for you, deleting any old AUTORUN.SYS file the disk had previously.

```
10 OPEN #1,12,0,"E:":POKE 82,0:POKE 83
,39:? "Autorun file generator":? :? "I
nput the line to execute":?
0 DIM A$(119):INPUT #1;A$:CLOSE #1:?
:? "Generating file...":OPEN #1,8,0,"D
:AUTORUN.SYS":FOR A=1 TO 117
30 READ B:PUT #1,B:NEXT A:? #1;A$;:FOR
 A=1 TO 120-LEN(A$):PUT #1,155:NEXT A:
FOR A=1 TO 8:READ B:PUT #1,B:NEXT A
40 ? :? "File done!":END :DATA 255,255
,0,6,232,6,169,69,160,0,217,26,3,240,8
,200,200,200,192,38,144,244,96,185,27
50 DATA 3,133,212,185,28,3,133,213,169
,95,153,27,3,169,6,153,28,3,140,232,6,
160,15,177,212,153,95,6,136,16,248
60 DATA 169,64,141,99,6,169,6,141,100,
6,169,0,133,215,96,164,215,185,111,6,4
8,5,160,1,230,215,96,172,232,6,165
70 DATA 212,153,27,3,165,213,153,28,3,
169,155,160,1,96,49,50,51,52,53,54,55,
56,57,48,49,50,51,52,53,54,155
80 DATA 0,226,2,227,2,0,6
```

PLOTGRAF

Now for an application program. One of the most tedious things a student can do in high school is to plot graphs of functions on graph paper. It often involves long computations of tables of X and Y values. Well, enter PLOTGRAF. At the prompt of "Y=?", enter a function in terms of X. For example: LOG(X), X*2, X*X/(2*X*X+1), or SIN(X). A graph will be made of that function. The white line at the top lets you know how much longer you have until the graph is complete (some functions take quite a bit of time).

Some of the more interesting graphs are: SQR(40-X*X) [an ellipse], 4*X/(X*X+1), SIN(X), 1/X [a hyperbola], and so on. Try some of your own, or work with variations on a theme. The program doesn't have to be appreciated by just students!

```
10 ? "Y=";:DIM A$(120):INPUT A$:? "}
40 Y=";A$:? "POKE 842,12:GOTO 20":POSI
TION 2,0:POKE 842,13:STOP
20 GRAPHICS 22:POKE 708,15:COLOR 1:FOR
 X=5 TO 150 STEP 10:PLOT X,45:NEXT X:F
OR Y=5 TO 95 STEP 10:PLOT 75,Y:NEXT Y
30 PLOT 5,0:DRAWTO 145,0:FOR X=-7 TO 7
 STEP 0.1:COLOR 0:PLOT 75+10*X,0:TRAP
60:COLOR 1
40 REM Formula will go here
50 PLOT 75+10*X,45-10*Y
60 NEXT X:FOR A=1 TO 2 STEP 0:IF PEEK(
53279)=7 THEN NEXT A
70 RUN
```

Atari's Small Miracles is a column dedicated to small programs. If you have any you'd like to see in this space, send them to: Atari's Small Miracles/co Mark A. Brown/7097 Game Lord Dr/Springfield, VA 22153. The programs have to be less then ten lines each. Please send some to me! I'm running out of ideas!

See you next month.

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CD REPORT

by George Langworthy

CD ROM activity is everywhere, but mainly behind the scenes. Activenture, Pacific Grove, CA, is delivering Sony CD ROM drives with a copy of the Grolier 21 volume encyclopedia for $995 mail order, $845 without the encyclopedia. Grolier is delivering a Philips drive and their disc for $1495 retail to dealers. The difference in prices reflects mainly the dealer discount.

Atari has not announced anything more about their CD ROM drive officially. Somewhere between the status of rumor and announcement is Neil Harris' answer to the question "When will CD ROM drive be available" at the February 4 meeting of the San Leandro Computer Club. He said "probably this summer; we're hoping for music."

This means combined audio and read only memory drive/player unit. This is more than Atari preannounced at CES Chicago, June 1985, and takes longer. At COMDEX Las Vegas, November 1985 only prototypes of CD ROM + audio were shown by Toshiba and Panasonic. It normally takes at least 6 months from prototype or engineering model to production version. Keep looking in INFOWORLD, USA TODAY and THE WALL STREET JOURNAL, as they have good coverage of new product announcements. They also have a much shorter deadline to print time than the monthly magazines, where information can be 90 or more days old.

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BATTLE BYTES:

By M. Evan Brooks

Conflict in Vietnam

(MicroProse) -- $34.95 ****

Conflict in Vietnam (CIV) is MicroProse's operational simulation of five (5) operations in Vietnam (1954-1972). As the reader is perusing this article, the game should just be arriving in the local game stores. Being involved as a playtester for the product, this reviewer has a rather extensive familiarity with the product.

As a continuation of the **Command Series**, CIV will be moderately familiar to those gamers possessing either **Crusade in Europe** or **Decision in the Desert**. However, certain modifications have been made to recreate the intricacies and peculiarities of the Vietnam Conflict.

As one would expect, helicopters and air assault play a major role in the simulation. Given the real-time flow and the speed of helicopters in reality, Dr. Bever has hit upon an ingenious solution -- the jump move. Simply use a joystick to tell the air assault elements the proper LZ (landing zone), and they will appear there (after a time delay which simulates travel time and order delay). While this writer at first considered the solution overly artificial, reflection showed it to be a stroke of genius. While air assault elements usually travelled at heights susceptible to ground fire, once ground fire was received, the air elements would rise above it and call in tac air to reduce any opposition. In the simulation, with a scale of one mile to the "hex" and the usual unit being a battalion, such ground fire would be negligible at best. Thus, the jump move accurately reflects the reality of Vietnam.

The documentation is what we have come to expect from MicroProse -- only more so. The documentation is over 100 pages long, and acts as a virtual tutorial on the conflict in Vietnam. Having proof-read the documentation for historical accuracy, this writer can find no flaws therein (earlier political conclusions were edited out, when it was apparent that the Vietnamese Conflict can still raise passions to an unreasonable degree). The bibliography is complete, and offers the serious gamer/historian ample opportunity to delve into further research. The only problem with the bibliography is not the designer's fault; this writer does not believe that the definitive text on the war has yet been written, and any reader should examine the author's political prejudices.

As for the simulation itself, CIV covers five operations: Dien Bien Phu (French vs. Viet Minh, 1954), Ia Drang (US vs. NVA, 1965), Khe Sanh (US vs. NVA, Tet 1968), Fishhook (US vs. NVA, Cambodia 1970), and Easter Offensive (ARVN vs. NVA, 1972). Each scenario is complete in itself, although of course, some are more interesting than others.

<u>Dien Bien Phu</u> is a tutorial. As the French, the player has no possibility of winning, and as the Viet Minh, one cannot lose unless one purposely tries to (and even then this writer is not sure that defeat is possible). However, the scenario will teach the novice the basic mechanics. The variants (particularly the one involving American intervention) does offer the French a ray of hope, but this writer suggests looking at the scenario once or twice, and then going on to the meat of the simulation.

<u>Ia Drang</u> reflects the 1st Air Cav's initial employment in Vietnam, in the Ia Drang (River Drang) Valley Campaign. As the NVA (North Vietnamese Army) attempts to seize a Special Forces Camp at Plei Mei, you employ your air cav to sweep the valley and search-and-destroy. A tense simulation, this writer regards it as the best scenario in the package.

<u>Khe Sanh</u> recreates the Tet Offensive in the area bounded by the DMZ (DeMilitarized Zone), Khe Sanh and Quang Tri City. As of this writing, the playtesting is continuing, but the overall effect is as follows: most US forces are static (i.e. garrison units). Although NVA units may be spotted, reaction forces are simply inadequate to deal with the situation. Therefore, the player waits for the hammer to fall -- but where? If the American chooses the wrong critical location, then the NVA will achieve a decisive victory, Walter Cronkite will wonder what is going on, and the end of American participation will ensue.

<u>FishHook</u> portrays the Cambodian incursion in 1970 (the direct cause of the Kent State Massacre). While historically the NVA had "bugged out", that was not a concrete decision. Therefore, the scenario variations offer different enemy OBs (orders of battle). Will you find an empty fishhook or a hornet's nest? Too aggressive or too timid a posture will lose the operation. One must probe aggressively, decide upon likely enemy opposition and then commit himself to a course of action.

<u>Easter Offensive</u> portrays the NVA offensive against the South Vietnamese Army (ARVN) after deVietnamization (only American air support is available to the South). A truly conventional battle with armor playing a key role.

Overall, CIV is a tutorial on the war in Vietnam. If one follows the documentation carefully, and plays the variants as suggested, one will achieve a greater understanding of the War in Vietnam than reading any book currently available. However, the game can be unforgiving in that tactical errors may quickly lead to strategic losses. Even more important, the game is HIGHLY balanced. Usual victory conditions will range between a draw and a slight victory for either side -- it can be frustrating, but it is highly accurate.

In playing the game, this writer strongly advocates the use of limited intelligence (for the game, not the user). Seeing only a portion of the NVA and responding thusly may allow a strong element to bypass one's position, and snatch victory from the American forces. The shock of seeing all forces deployed at the game's conclusion is worth the price of admission ("wait a minute! I destroyed all the enemy, didn't I?....").

The American forces are strong and mobile; the problem is that there are not enough of them to accomplish the necessary objectives. In playtesting, the following lesson was learned through repeated playings: do NOT use American ground forces for assaults if at all possible. The best use of American forces is to fix the enemy in place and adopt a defensive posture. American air and artillery support is the tool of destruction. While this is not in keeping with the tenets of the Infantry School, it is what occurred in Vietnam.

Also, even more important, is to allow latitude to one's subordinate commanders. While one can adjust fire for all units independently, it is more efficient to permit most air/artillery units to determine targets under local command. Use minimum force necessary; your other elements will be required elsewhere.

One may play as either side. While most players will sympathize with the American forces, one must remember that the Americans generally are on the defensive. Initiative usually rests with the NVA. Thus, if one can play the NVA without prejudice, then one will be able to seize the initiative. American fire support is deadly, but the NVA's ability to avoid contact unless on grounds of his choosing present interesting tactical problems. NVA assaults are best predicated on an initial sharp attack, followed by rapid disengagement in order to prevent destruction by American air and artillery.

Practically speaking, CIV is an exercise in frustration. The player will condemn the politicians for refusing additional troop and fire support and for placing him in an untenable position. But this is historically accurate. CIV is a simulation that is intensely realistic and accurate; its defect is that the war in Vietnam was not a clean effort resulting in American victory (if it was, gaming the situation would have been much easier).

If your interest in Vietnam is limited to rooting for Rambo (but if it were, you would obviously not have read this far), then CIV is not for you. On the other hand, if you wish to discern the historical problems faced by commanders in Vietnam, then CIV is strongly recommended.

For a more detailed ananlysis, cf. the latest copy of *Computer Gaming World*.

From the Trenches: **Conflict in Vietnam** will be released no later than 15 March. SSI has released **Antietam** (a game on the Civil War battle which looks interesting); **USAAF** (United States Army Air Force), the bomber offensive over Germany, is scheduled for a late-March release. **Fighter Command** and **Mech Brigade** are scheduled for conversion (no release date yet), although **Battle Group** (**Kampfgruppe** on the Western Front) is not listed for conversion.

MicroProse is looking for a new simulation subject. Does anyone have any suggestions on topics they would like to see (and that have commerical potential). Please call or write me with your responses and I will be happy to pass them on.

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Tips 'N' Traps

by Jim Stevenson and Barry Burke

Well, here we are for number 13. It's been over a year now since we've started Tips 'N' Traps, and it's been going quite well ever since. Remember, if you have a problem, call the experts: Jim Stevenson (703)378-4093, or Barry Burke (703)830-1978. You may also call ARMUDIC (703)569-8305, or Joe's Attic (703)471-1809 if you have a question. Each board has its own message base for the topic of adventure hints. And now, this month's problems and their solutions.

Enchanterer

Q. I need some help with Enchanter. I have figured out (I think) what you're supposed to do to win the game. I got the answer from the old book in the library. Also, I went into the machine room and got the scroll, but was killed on the way out. I feel certain that is the scroll I must use to solve the adventure. However, I cannot get by the guarded door, and I do not know how to get that scroll out alive. I am sure the turtle might help, but I have had no luck with him. Also, when you summon the adventurer from Zork, what do you do with him?

-"King Rat"

A. In order to get the scroll from the machine room, you need 2 other scrolls. First go in the cell, then type MOVE BLOCK, revealing a passage, enter the passage and take the scroll. This scroll lets you speed up something (the turtle). Then go to the gallery without light. Then there will be a lighted portrait. Type LOOK BEHIND LIGHTED PORTRAIT, there will be a black scroll. This spell protects you from evil (GUARDS). Then go to the rusty gate. OPEN GATE WITH REZROV SPELL. GO NORTH. TAKE SCROLL. GO E. TAKE SCROLL (look under lily pad!) then return to the beach use the CLEESH spell on the turtle, then tell him to follow you to the machine room. Tell him to go SE, TAKE SCROLL then GO NW and there's your KULCAD spell!! Don't forget to use the EXEX spell on the turtle before you send him in!

Now for the adventurer. This guy causes you alot of trouble but you need him to win! First, you will have to GET THE EGG. REZROV IT. Now you need to REPAIR THE SCROLL! GET THE KREBF scroll. Use it on the shreaded scroll. Then go to the mirror room. ZIFMIA the adventurer. Then use the VAXUM scroll on him (IN THE BEDPOST!)

-"Don"

Q. Can someone give me a hint on how to get past the dragon at the end game of Enchanter? It keeps roasting me and I have to reboot. A big bug in the game, that is. I used the banish spell to get rid of the demon, was that the wrong thing to do?

-"Beowulf Shaeffer"

A. You still need the GONDAR spell to get rid of the dragon. If you want to know how to get it just tell me. I know how people feel when all they wanted was a little hint and people tell them how to solve the whole game.

-"The Wanderer"

Ultima II

Q. Help! My 30th level thief is sitting around in her ship with nothing to do. How do you get keys?

-Nick McDowell

A. Its been a while since I played this one but if I remember correctly you obtain keys by stealing them from the guards in the cities.

-Paul Mattia

Silent Service

Q. I have a problem with Silent Service and need some advice. It seems that shortly after I start a convoy action my sub inexplicably starts diving for the bottom. Nothing I do keeps it from running aground. The only thing that gets me back to the surface is emergency (Shift-E) command. Also according to the manual R is reverse engines, but on mine it meets "stop engines - run silent". Anybody know what gives here? Thanks.

-Richard Smart

A. The R command reverses your speed to 1/2 of forward. i.e. 10 forward would be 5 in reverse.

-"Major Tom"

Blade of Blackpoole

Q. Does anyone know where to get the arrows for the bow? I would appreciate some help.

-"The Wanderer"

King's Quest II

Q. I got the cloak, ring, bracelet, trident, and a few other things, but i don't know what to do now. How do I get into the antique shop? Also, how do I get to the castle across the poisoned lake? Where else am I supposed to go and how do I get there?

-Barry Burke

Emerald Isle

Q. Can anyone tell me how to get a light to explore the cave and mine without being eaten by ghouls?

-Harry Poulter

Hitchhiker's Guide to the Galaxy

Q. Does anybody know how to plant the four fluffs in the pot so the tree will grow? I plant the fluffs but the tree doesn't grow and I SPLAT!!

-Dean Miller

A. Read the Guide entry about fluff. There is a special type of environment that the tree will grow in and you can only find it one place on the ship.

-Paul Mattia

NEW PRODUCTS

By Jack Holtzhauer - WACUG

As usual, this column is devoted to new products for the 8-bit Atari line actually appearing on dealer's shelves. Except where obvious, descriptions and claims are those provided by the manufacturer.

THE LEARNING PHONE
Atari Corp, Sunnyvale, CA 94086

ANTIC's wrap-up article on the Vegas CES reported "... the long-awaited Learning Phone cartridge for accessing PLATO was featured, in-store availability should begin in February, and the price may be as low as $25.00 ..." The LEARNING PHONE package did, indeed, arrive on dealer's shelves during early February. Unfortunately, ANTIC's report had the month right, but the year wrong. The squib was dated January 10, 1985, over thirteen months ago! You remember, that was the CES featuring Atari's new line of XE and ST computers. Talk about lead time!

The LEARNING PHONE package includes a software cartridge, 75-page user's manual, a free first year enrollment in PLATO's "HOMELINK NETWORK", plus a free hour of connect time. Any 8-bit Atari computer with 16K can be used. Of course, you'll also need a modem.

According to the packaging blurbs, the PLATO system offers ". . . fascinating courses from preschool education to flying a Boeing 747, all beautifuly illustrated with user-friendly graphics and text - - over 200,000 hours of valuable self-improvement instructions for everyone. Communicate with computer users throughout the world with electronic mail. Open discussion forums -- or publish your own electronic newsletter. Play interactive games with users worldwide. Explore the graphic dungeons, join a galatic federation, or visit a ghost town. Program your courses and games for the entire user community to enjoy. Instant user feedback lets you refine your programs to their ultimate form. . ."

The LEARNING PHONE system features joystick or keyboard control, exclusive zoom graphics (48k), HELP key assistance and 300 or 1200 baud operation.

What's available on PLATO? Over 450 program titles featuring 23 subject areas -- astronomy to spelling, physics to the social sciences; electronic mail, text processing, graphics design, file management, you name it.

What are the fees? A $25.00 annual and $7.75 hourly fee charged to your Mastercard, VISA or American Express account (first year and hour free with this package). Unfortunately, the only phone number listed for the metropolitan D.C. area is a 301 number. This will translate into long distance charges for many local users unless other access numbers have been added since the listing furnished with the package was published in 1984. Priced at $21.99.

NAM
Strategic Simulations, Inc.

This new SSI release claims to be a squad/battery level tactical wargame for introductory and intermediate level players. It features smooth-scrolling, colorful graphics (rivers, bridges, woods, caves and roads) and three levels of difficulty. "NAM tests your command abilities in six challenging scenarios based on actual operations. Patrol dense jungle. Search out and destroy your enemy in his underground strongholds. Engage in bitter street fighting in Hue during the Tet Offensive ... You deploy units of American, South Vietnamese and South Korean infantry, artillery, paratroopers, marines, rangers and air cavalry ... even the Hue City police ... Arm your troops with assault rifles, machine guns, mortars and rocket launchers. Support them with ACAVs, tanks and anti-aircraft vehicles. Utilize your highly mobile Cobra, Huey and Kiowa helicopters for transport, observation, and attack in otherwise inaccessiable areas. Priced at $32.99

STYLEWRITER
Carolina Engineering Laboratories, 818 Tyvola Road/109, Charlotte, NC 28210, 704/525-4423, 800/222-9073

You say you've got a low-cost graphics-capable printer and would like to produce copy rivaling an expensive NLQ laser model. Carolina Engineering claims they have just the thing for you -- STYLEWRITER "... a low cost, powerful computer-to-printer on line interfacing unit which provides micro-processor control over the standard all points addressable dot matrix printer, enabling it to print near letter quality with multiple typestyles."

STYLEWRITER is said to "... connect the computer and printer with either serial or parallel cables and provides an 8k data buffer to enhance productivity ... most importantly, its multiple typestyle capability gives the operator freedom of expression to personalize and emphazise text ... STYLEWRITER utilizes an 8085 processor driven by unique, self-contained software which converts straight ASCII coded text into a more sophisticated graphic representation of that text. Additional typestyles (two are includeed) can be purchased and added simply by inserting them in the unit and selecting them automatically by keyboard entry. The result is a totally "transparent" interface which generates high quality text in a variety of typestypes, quickly ... STYLEWRITER receives its information directly from the word prcessing software and, by providing an 8k data bufffer, it can hold and process five average pages of text independently of the computer, allowing it to do what it was intended to do -- work, not wait. To speed up rough drafts, it can be by-passed at the flip of a switch, and then reactivated for a quality final product."

My local retailer swears this product is fully compatible with popular Atari word processing programs, but I dunno. A quick glance at the manual leaves me with the impression that it will allow you to insert STYLEWRITER formatting and font commands into an otherwise straight text dump from your favorite word processor, a dump containing no formatting commands or printer control codes. Although sample print-outs I've seen are impressive, maybe you might best try before you buy. Priced at $149.99.

ALTERNATIVE REALITY

Datasoft, 19808 Nordhoff Place, Chatsworth, CA 91311

Datasoft bills ALTERNATIVE REALITY as the "ultimate role-playing fantasy game". According to the packaging blurb, you've just been "kidnapped" by an alien spaceship (what kind of ransom could they possibly be looking for???). "... You find yourself in a room with only one exit. Through this opalescent doorway is the City of Xebec's Demise. Overhead is a panel displaying constantly changing numbers. At the moment you pass through, the numbers freeze. Whatever levels of Stamina, Charm, Strength, Intelligence, Wisdom, Skill and Wealth you begin your adventure with are determined at this point ... Mystery and danger await you in the maze of streets. Beware; not everyone is friendly! Eat and drink in taverns, where clues are often found in the hearty songs you hear. Battle deadly enemies, uncover marvelous treasurers, learn dark secrets ... You must improve yourself physically, mentally, morally and financially in order for you to reach your goal -- return to earth or seek revenge on your abductors." Claimed to feature combined keyboard and joystick action, three-dimensional fine scrolling and original music, this release is priced at $29.99.

SPY VS SPY

First Star Software, 18 East 41st Street, New York NY 10017, 212/532-4666

SPY VS SPY (VOL II - The Island) is the sequel to First Star Software's original smash hit -- MAD MAGAZINE'S OFFICIAL SPY VS SPY. The famous agents of MESSPIONAGE "are back in a new setting that features Simulvision, a techinque introduced to the undercover computer world by First Star."

The Island Caper ". . . takes place on an exotic tropical island complete with a still-active volcano and other natural hazards. On the islands (in some levels there is more than one), buried in the sand, are parts of a missile which must be assembled in order for you to escape by submarine -- before the volcano errupts!"

The program is said to feature one or two player action, full scrolling screens, realtime animations, Simulvision (both players active at the same time), joystick or keyboard input. Priced at $23.99

256K RAM UPGRADE/800XL

NEWELL INDUSTRIES, 602 E. Hwy 78, Wylie, Tx 75098, 214/442-6612

This expansion board for the 800XL provides 256K of memory -- 64K direct memory plus 192K of bankable memory in twelve 16K banks. It comes with MYDOS and is said to be compatible with software designed for the 128K 130XE computers. Priced at $98.99, including installation.

FASTBACK XE

R. A. Gunter, 12609 Westlodge Court, Herndon, VA 22070, 703/471-7765

There have been a number of sector copying utilities released during recent months, some commercial products and some public domain offerings ... COPYMATE XE, COPYALL XL/XE, BLACK BUNNY, et al. Most use the extra memory capacity of the 130XE for single pass copying.

FASTBACK XE is another of that genre, but is has a couple of features not usually found elsewhere. First of all, it will copy disks in single, 1050 "density-and-a-half", or true double density. The program selects the proper density automatically, reading the density of the source disk and writing the copy accordingly (COPYALL XE/XL handles single and double density, but not "density-and-a-half"). Secondly, the program does not automatically abort if it finds a damaged or unreadable sector on the source disk. You may elect to continue the process thereby duplicating as much of the source disk as possible -- particularly useful with disks containing text or data files.

The program also provides a "compare" function, allowing you to compare the source and copy disks byte for byte. Finally, you can elect to make as many as 99 copies at a time. Like most of the other sector copiers mentioned above, FASTBACK XE uses the extra memory of the 130XE. Single density disks can be read in one pass and with the multi-copy function, all you have to do is sit back and feed destination disks into your drive. Priced at $13.95. If not available through your favorite retailer, you can order through the author at the address given above.

SILENT SERVICE

Micro Prose Simulation Software, 1201 Lakefront Drive, Hunt Valley, MD 21030, 301/667-1151

According to Micro Prose, SILENT SERVICE, "... the Submarine Simulation, brings exciting action, great strategy, detailed graphics and an ultra-realistic simulation of a World War II U. S. submarine in the South Pacific." Besides that, my twenty-five year old son, who receives a Navy paycheck for being a auxiliary power technician but actually spends nearly every waking moment playing computer games, claims this is the best thing to come along since the F-15 Strike Eagle.

Silent Services's features are said to include "all the critical battle stations - engine room, conning tower and ship's bridge, challenging and realistic combat versus single ships and heavily escorted convoys, and an infinite variety of situations using complete maps and charts for the entire Southwest Pacific and a sophisticated and realistic attack plotting system ... select a quite partol sector in the Marianas Islands, or choose the dangerous waters off the coast of Japan ... Is the submerged daylight periscope attack best, or do you charge in on the surface at night using only radar bearing to guide you? Do you pick of the enemy with a single torpedo shot? These decisions and many more are yours to make as you take your place among the elite ranks of the Silent Service." Priced at $27.99.

Kyan Pascal - A Review
by J. O. Stevenson, Dick Brown, and Mark Sandler

This review is a little unusual in that it reflects the views of three people instead of one. Jim Stevenson is involved in software development at the commercial level (using among others the languages Fortran, Pascal, and C), Dick Brown is a recently retired Fairfax County high school teacher who taught Pascal, and Mark Sandler is now a college student using Pascal. It is hoped that this spectrum of views will be helpful. It should be noted that Dick and Mark received **Kyan Pascal** more favorably than did Jim (aka curmudgeon), and the comments below should suggest why. Now, imagine are three reviewers are sitting around a table discussing Kyan Pascal while you are listening in....

Jim:
What can the reader of a brief review of an implementation of such a rich language as Pascal hope to accomplish? To learn something about a product one might be "growing into" in the future? To decide if Kyan Pascal is worth buying now? What do you have to know in order to decide, if you are a novice, if you are experienced? In order to try to cover all bases, a brief discussion of Pascal, the language, will be given first followed by the review of Kyan Pascal. By the way, an excellent review of Kyan Pascal to supplement this one can be found in the November 1985 issue of ANTIC by Ray Cole.

Pascal, the Language

An earlier review on Action! (CURRENT NOTES, Sept. 1984, pp.17-20) explained for the novice such concepts as local and global variables, compiled and interpreted languages, linking loaders, information hiding, procedures, and modularity, as well as the problems with Basic that languages such as Pascal, Action, and C resolve. It might be helpful for the reader to review that article if some of the terminology that follows is vague.

Pascal was created by Niklaus Wirth of Zurich in 1970-71. His primary purpose was pedagogical: to teach others how a language should be. He wished to avoid the pitfalls of languages such as Fortran (and therefore Basic). Code should be self-documenting and easy to read so that others could know how to change it. For additional clarity and simplicity, it should employ structured patterns in both control and data. Only three control structures are needed: process, such as assignment statements; branch, such as IF...THEN...ELSE; and loop, such as REPEAT...UNTIL or WHILE...DO. Data structures involved augmenting the simple arrays of integers or reals with RECORDs of mixed types. For example, a mailing address could become a single record containing fields of characters for a name, street and city, and integers for street number and ZIP code, and a variable could represent a "mailing address" record just as it could represent an integer, real, or array. In order to keep the code at a high level and general, and to avoid machine specific tricks, Wirth would not allow the code to access user-specified absolute addresses in a machine. In addition, to simplify the language for pedagogic purposes, all the routines had to be combined together in a single source file before compiling; there would be no "separate compilation," which he had observed to be at the heart of many bugs in contemporary code. This original formulation of Pascal by Wirth, as codified by the International Standards Organization (ISO), has become known as Standard Pascal

Its success in the academic world and the ease with which it could be implemented in the newly evolving microcomputers stimulated its use in the commercial world. But real applications make messy demands. A programmer must access specific addresses sometimes, and large projects require separately compiled routines in large libraries generated by teams of programmers. Thus arose the "extensions" to Pascal to solve these problems, the most well-known being the UCSD version. And finally Niklaus Wirth has responded himself with Modula-2, which is already available on the Atari ST. It is very comparable to the committee generated Department of Defense language Ada. Thus Standard Pascal is at the heart of many modern languages both in industry and academia.

Dick:
Pascal has been recognized by the Fairfax County School System as an ideal first language for students of computer science. The school system is aware that students who learn Pascal as a first language develop good programming habits and skills essential for structured programming.

Pascal for Atari

The variations of Pascal available for the Atari user are the ATARI PASCAL LANGUAGE SYSTEM from APX, Draper Pascal from Draper Software, and Kyan Pascal from Kyan Software.

The APX version will execute on the 800, 800XL, and 130XE. The program is an excellent version of Pascal having many features not found in Standard Pascal, however it has the disadvantages of requiring two disk drives, being extremely slow in compiling, and having no built-in editing capability.

The Draper version will execute on the 400, 800, 600XL, 800XL, and the 130XE, requiring only a single disk drive, but for anything other than a simple introduction to the Pascal language, it is virtually worthless.

Kyan Pascal

Mark:
The Kyan Pascal package (version 1.2) comes with one system disk (not copy protected for backup purposes only) and a hundred page manual. The disk comes with an editor (ED), a compiler (PC), DOS 2.5 (plus the Ramdisk), and many subroutines for graphics.

Dick:
This version of Pascal is completely compatible with

Standard Pascal thus allowing programs and program modules written within the guidelines of Standard Pascal to be transported to many other machines without modification. Kyan Pascal provides a number of extensions to Standard Pascal, including string handling procedures, random file access, crude PEEK and POKE capability, the inclusion of a user defined library of procedures and functions, the allowance of assembly language routines, the chaining of object code files, and the capacity to handle high resolution graphics.

Jim:
Version 1.3 is now out and version 2.0 is due out in mid February. Version 2.0 will include a new manual as well. (Upgrade policy will be discussed below under Support.) Except for the manual, these versions do not remedy problems I found with version 1.2 (to be addressed below under Atari Graphics).

Editor

Dick:
Kyan Pascal consists of an editor program and a compiler/assembler program. The editor program is similar in use to the Turbo-Pascal editor. The Kyan Pascal editor is an easily learned full screen, insert mode editor which greatly facilitates program editing. Cursor movement is accomplished via the standard Atari arrow keys as well as 10 Control/Key commands that allow rapid movement to specified locations within the text of the program such as top of the file, bottom of the file, forward one word, back one word, and back 20 lines.

The editor also supports such functions as search and search/replace, edit at line, include a file, and block text movement [contrary to what was said in the Cole review of version 1.1].

Jim:
The curmudgeon view is that it is irritating to have to learn yet another editor, and one from Apple land to boot! Of course, Atariwriter+ has changed things a bit too from Atariwriter, so one shouldn't complain. One thing Atariwriter+ has which would be very useful for Pascal is 80 column editing via a scrolling screen. With all the indentation and text involved in Pascal, 80 columns are almost a requirement. My biggest complaint, however, is with upper and lower case settings. Most (but not all!) of the editing commands accessed from the command menu require upper case letters. You can be editing your program in lower case, press escape to get to the editor, type "c" to set search/replace options, "a" and "b" for the strings, and then "s" in response to "CHANGE ALL STRINGS OR SOME (A/S/Q)?", never realizing that you are still in lower case. But only the last "s" gets no response; the system acts as if it were hung up. There were other unnecessary examples like this. Since it is so easy to set the upper and lower case flags in software for the Atari, this kind of sloppy user-unfriendliness is not acceptable.

Compiler

Dick:
The Kyan compiler/assembler operates at a fairly fast speed and allows the user the options of compiling without generating an object file, to send error messages and assembly listings to an appropriate device. There are 35 compiler error messages built into the compiler which are printed when a compilation error is encountered. The line containing the error is displayed with its line number and an "indicator" pointing to the error. A description of the error follows. Compilation continues, but to this user, it is difficult to locate and interpret further compilation errors due to a single error quite often generating multiple error messages following it. Kyan Pascal also contains assembler and run-time error messages.

Mark:
The compiler is the best feature of Kyan Pascal. It is a one pass compiler that does not need linking in order to have a runable program. This saves time in debugging a long program. All in all, the compiler is extremely fast and easy to use.

Jim:
Curmudgeon again: the compiler with its constant disk accesses is agonizingly slow by Action! standards. An important point in Kyan's favor is that it will assemble imbedded 6502 assembly source. In fact, it should be emphasized that Kyan Pascal produces high-speed assembly code and not the slower p-code that requires an interpreter (such as with Apple and UCSD Pascal).

Dick:
Execution of the object file does not require using the Kyan Pascal disk, but does require the disk containing the object file to contain the Kyan Pascal library file, "LIB". This file utilizes 78 sectors of disk space.

Ramdisk

The need for disk swapping and the time lost in loading the editor or compiler from disk can be virtually eliminated for 130XE users by copying the compiler and editor into the Ramdisk (D8:). This device can be used like any other disk drive except it can contain only 64K of data and data is lost on power down. This user finds it convenient to save and load source files from device D1: while holding the editor and the compiler/assembler in the Ramdisk thus greatly increasing speed when accessing the editor and compiler without risk of losing anything due to power failure.

Jim:
The ability to put the compiler and editor on a Ramdisk is so important that it is almost worth buying a 130XE if you want to use Pascal. It is ridiculous to comtemplate any extensive Pascal software development otherwise. However, my joy turned to anger when I discovered that Kyan

Pascal is married to DOS 2.5. Since the disk file loader routines have been relocated, the best DOS for Atari, namely SPARTADOS, cannot be used. ICD has gone to a lot of trouble to become compatible with programs using Atari DOS 2.0 (it works splendidly with Atariwriter). SPARTADOS would allow you to boot the disk, set up the Ramdisk, and load it with the files you want automatically. It would also give true double-density on the 1050, which would be very important for extensive software development. I should say that I have subsequently overcome the irritation of manually copying files to the Ramdisk by using a FastFingers file appended to AUTORUN.SYS (see ANTIC, Feb 1984).

Mark:

Atari Graphics. Kyan Pascal supports all of Atari's graphics functions and colors that are offered in BASIC. Each command is implemented by including the required subroutine into the program from the system disk.

Jim:

Of the three graphics functions I used, graphics(), setcolor(), and plot(), I found bugs in the first two. The bug in the graphics function is so bad that I don't understand how anyone could use it. If you use the graphics function twice, the second occurence will yield a device open error, since the assembly code fails to close the S: device before opening it. The function also appeared to allocate screen memory in the stack area. When I talked to Dick Brown about this, he admitted he had only used the text mode, and so had not used the graphics function. The setcolor function multiplies the color and hue by two (modulo 16)! When I talked on the phone to the president of Kyan Software, Thomas E. Eckmann, he was not aware of these bugs. Thus Version 2.0 can be assumed to still have them.

The lack of a byte data type makes it very difficult to access the registers and addresses necessary for true Atari graphics programming.

Documentation

Mark:

The manual provided with the Kyan Pascal package is extremely well written, covering everything from editing and compiling to creating graphic displays. The manual gives examples of everything a programmer will experience before getting a program to run by itself.

The manual is rather frustrating. It is neither a tutorial nor a reference; it falls in between and therefore does neither particularly well. Being primarily an Apple manual with Atari as an afterthought did not help much either. In fact, to be most uncharitable, the ghastly formats of the program examples and the ambiguous and erroneous use of terminology lead me to suspect a novice at programming put the manual together. Since the advantage of Pascal (compared with Action!, say) is its universality, there are excellent books on the market explaining the language (tutorials and references). What is needed most is a detailed discussion of Kyan's "extensions." Does "chaining source code" really mean overlaying executable image code at run time? (Yes.) How can an integer pointer be used to PEEK a byte location? (The MSB is set to 0.)

Support

Kyan Software offers fairly adequate support for its Pascal. For $9 you can can receive an annual subscription to the bimonthly UPDATE...KYAN! This is a must!!!! The first two issues corrected the manual regarding the use of assembly language and chaining. Assembly listings were given for true PEEK and POKE and for the previously omitted sound function. I would like to see bug fixes included as with the Action! newsletters.

Anyone purchasing Kyan Pascal (v 1.3) after 1/1/86 can get the new version 2.0 free of charge when it appears. That is important, since I don't consider Kyan Pascal or its manual particularly usable by the novice at this point. Those of us who got Kyan Pascal before Dec 85 have to put out $20 for Version 2.0!

Evaluations

Dick:

This reviewer (like Jim Stevenson) holds the viewpoint that the home computer is primarily a learning device and that Kyan Pascal greatly enhances your Atari computer in serving this function. Kyan Pascal has been recently advertised in CURRENT NOTES by one dealer for $44 a copy. At this price the reviewer recommends -- Buy it!

Mark:

Kyan Pascal is an excellent standard Pascal plus a whole lot more. The editor, compiler and other features really makeup one great Pascal package. The suggested list price, $69.95, is well worth it for the serious or amateur Pascal programmer.

Jim:

My views conform more to those expressed by Ray Cole in his review. Kyan Pascal fulfills Wirth's pedagogical goals for Standard Pascal but its lack of extensions makes it perhaps unsuitable for tapping Atari's graphics power. My vote for the best programming language for Atari is still Action!. The excellence of the editor and the speed with which you can move between compiler and editor is unexcelled. The simplicity of accessing specific addresses and the lack of hassle over semicolons are a joy. However, since there are no tutorials in Action! and no explanatory texts on the market other than the (excellent reference) documentation that came with the software, Action! is not for the newcomer to structured programming. Thus Pascal wins again for the novice. Even for the experienced programmer, Kyan Standard Pascal has a strong place, namely in applications that rely heavily on operations with real numbers, such as simulations and other scientific programming.

The Size and Shape of Screen Dumps

W. Williams Schadt and Trevor W. Schadt

Using the Atari to produce high resolution images on the screen is fun, but transferring a screen image to a printed page can be a study in frustration. Very few tasks with the Atari result in more wasted paper and time. The typical result is an image that is the wrong size, printed sideways and/or severely distorted. Several weeks ago we were in the midst of one of these frustrating sessions using a graphics program to draw an ellipse so that the printed image would be something close to a true circle. We simply gave up, turned off the computer and resolved to do something to simplify the task of printing screen images.

What is needed is a simple table of data that can be consulted in the planning stages of a screen dump. Entries in the table for each screen dump program should show: the size of the printed image, its orientation and relative position on the paper, the elapsed time for printing, and the aspect ratio of the printed image.

Suppose that you want a printed image that is 4 inches high. A full-sized Atari Artist screen image printed on an Epson MX-80 printer by a program called PAGE DESIGNER results in a printed image that is 5.3 inches high. The desired height of four inches is 75 percent of 5.3 inches so if you limit the height of the screen drawing to 75 percent of the maximum vertical screen dimension, the height of the printed image will be 4 inches. Find a flexible ruler, measure the height of the drawing field on your TV or monitor screen, and use the drawing tablet to place one or two horizontal lines delimiting the 75 percent height boundary on the screen for your masterpiece. If you keep the drawing within that boundary the height of the printed image will not exceed 4 inches. A similar calculation can be used to layout the horizontal size limits that should be used to produce the desired width of the printed image.

The first step in this project was to create a simple test pattern with the Atari Artist Touch Tablet. Thick lines were drawn along the four edges of the test pattern to show the largest dimensions of the drawing area. The top, bottom, right and left sides were identified with letters so that any unexpected change in the image orientation during the printing process would be noticed. The image was saved to a disk file in two formats: compressed Micro Illustrator and 62 sector format. Throughout this paper the dimensions of the printed image will be stated in relation to the orientation of the test pattern as it appeared on the monitor screen. And, the width of the image divided by height will be referred to as the aspect ratio.

The next phase of the project was to determine how many different screen dump programs were readily available to us for this project. Four unique screen dump programs were found in the Disk Library of the Atari Users Regional Association (AURA), and one was obtained from the San Leandro California Computer Club. Six commercial programs were also included: four programs from XLent Software of Springfield Virginia, one utility program (part of Paper Clip) from Batteries Included, and one relatively new program called RAMBRANDT from the Antic Catalog.

The list below identifies all the programs tested. Any program that requires that the disk file be in some format other than 62 sector or Micro Illustrator compressed was not included. The test results reported here were obtained using an Epson MX-80 printer equipped with Graftrax. The Atari computer system included a model 130XE, two disk drives, an Atari 850 interface, and an Amdek Color I monitor. The printing times were measured from the moment that the printer began until the last line of the image was printed. The printing times reported do not include the time that elapsed while the disk file was loaded.

Software Tested

Program Name	Source
ARTUTIL.BAS ---	AURA Library Disk #38
SHOWPIC.CMP ---	AURA Library Disk #38
PICTRIX.BAS ---	AURA Library Disk #43
GDEVICE.BAS ---	AURA Library Disk #60
PICDUMP.BAS ---	San Leandro, CA. Computer Club Disk 1985
MEGAFONT II+ --	XLent Software
PAGE DESIGNER -	XLent Software
TYPESETTER ----	XLent Software
RUBBER STAMP --	XLent Software
RAMBRANDT -----	Antic Catalog
HIRESDMP.BAS --	PAPERCLIP utility, Batteries Included

Table I assigns an identification number to each program or program configuration tested. Table II shows the height, width, printing time and other data for all of these programs. The value of OFFSET refers to the location of the upper left hand corner of the printed image. If the corner of the image is printed to the right or down the page, the length of the offset is given in inches and labeled with an "R" or "D" representing "right" or "down". The word "NONE" in the column labeled OFFSET means that the image was printed at the upper left corner of the page without any shift to the right or down the page. A "NORMAL" entry in the ORIENTATION column refers to a printed image that is identical to the orientation of the image as seen on the monitor screen. But some of the screen dump programs rotate the image 90 degrees clockwise which is indicated by a "CW", for clockwise, entry in the ORIENTATION column.

The fastest program tested was ARTUTIL.BAS which printed a 4.39" wide by 3.17" high image in 52 seconds. The MEGAFONT II+ program (full page print mode) produced the largest printed image which was 13.3" wide and 8" high and took 44.3 minutes to print. This was, by far, the slowest configuration tested. The GDEVICE.BAS program (single height and single width mode) and TYPESETTER (normal load and vertical half height print mode) both produced the smallest image (2.6" high by 2.6" wide). The time for the GDEVICE printing was 1.17 minutes while the time for the printing by TYPESETTER was 4.87 minutes.

Table I: Program ID Numbers

GDEVICE Configurations
1. Single height and single width - XIO 64,#1,1,0,"G1:"
2. Single height and double width - XIO 64,#1,2,0,"G1:"
3. Single height and triple width - XIO 64,#1,3,0,"G1:"
4. Double height and single width - XIO 64,#1,1,0,"G3:"
5. Double height and double width - XIO 64,#1,2,0,"G3:"
6. Double height and triple width - XIO 64,#1,3,0,"G3:"

MEGAFONT II+ Configurations
7. 1/8 page print mode
8. 1/4 page print mode
9. 1/2 page print mode
10. Full page print mode

TYPESETTER Configurations
11. Expanded load, vertical full height
12. Expanded load, vertical half height
13. Expanded load, horizontal full height
14. Normal load, vertical full height
15. Normal load, vertical half height
16. Normal load, horizontal full height

RAMBRANDT Configurations
17. Fast dump
18. Slow dump
19. PICDUMP.BAS
20. PAGE DESIGNER
21. PICTRIX
22. HIRESDMP.BAS
23. ARTUTIL.BAS
24. SHOWPIC.CMP
25. RUBBER STAMP

The width of the test image on the Amdek color monitor is 10.75" and the height is 7.75". Therefore, the aspect ratio of the screen image is 10.75 divided by 7.75 or 1.38. A printed image with a similar aspect ratio is desirable if there is to be a minimum of distortion (circles that look like ellipses). The screen dump programs tested in this project produce images that have a wide variety of aspect ratios. The values of the aspect ratio for ARTUTIL.BAS, PICTRIX, and both modes of RAMBRANDT are approximately 1.38 which is almost identical to that of the screen. Others varied from a low of 0.50 (GDEVICE program using double height and single width and TYPESETTER using normal load with vertical full height printing) to a high value of 3.03 (GDEVICE program using single height and triple width).

There are many other screen dump programs and many printers, other than the Epson MX-80, that could be used for the type of testing reported in this paper. Readers who have access to other programs or printers are encouraged to conduct this type of test and report the results. If you do not want to submit the data to Current Notes for publication then send the results to us and we will compile them for future publication. We would also like to receive copies of other screen dump programs so they can be tested with other printers. The results and/or programs should be sent to W. W. Schadt, 11809 Gordon Road, Silver Spring, MD 20904. Any disks sent will be returned, and persons contributing to this effort will be acknowledged in future articles.

We hope that the data in this article will be useful and reduce some of the frustrations associated with transferring screen images to a printer. Software vendors and reviewers are encouraged to include this type of data in their manuals and articles.

Table II: Program Test Results

(Dimensions in inches, time in minutes)

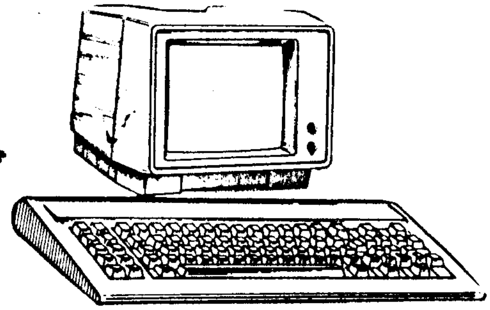
ID#	HEIGHT	WIDTH	TIME	ASPECT	ORIENT	OFFSET	SOURCE
1	2.625	2.66	1.17	1.01	N	NONE	GDEV
2	2.625	5.31	2.97	2.02	N	NONE	GDEV
3	2.625	7.97	5.57	3.04	N	NONE	GDEV
4	5.313	2.66	2.32	0.50	N	NONE	GDEV
5	5.313	5.33	5.90	1.00	N	NONE	GDEV
6	5.313	7.97	11.13	1.50	N	NONE	GDEV
7	2.656	2.66	1.48	1.00	N	NONE	MEGA
8	2.641	5.31	3.83	2.01	N	NONE	MEGA
9	5.281	7.97	14.46	1.51	N	NONE	MEGA
10	8.970	13.28	44.30	1.67	CW	NONE	MEGA
11	5.281	5.31	9.83	1.01	N	1.38R	TYPE
12	2.625	5.31	4.96	2.02	N	1.38R	TYPE
13	4.781	8.84	20.15	1.85	CW	3.25R	TYPE
14	5.313	2.66	9.85	0.50	N	2.69R	TYPE
15	2.594	2.66	4.87	1.02	N	2.69R	TYPE
16	4.781	4.44	15.83	0.93	CW	3.2R 3.1D	TYPE
17	3.188	4.41	1.12	1.38	CW	1.0R	RAMB
18	6.375	8.81	11.53	1.38	CW	NONE	RAMB
19	6.375	7.75	11.27	1.22	CW	NONE	PICD
20	5.266	8.00	11.32	1.52	N	NONE	PAGE
21	6.375	8.84	18.12	1.39	CW	NONE	PICT
22	2.625	5.31	2.35	2.02	N	1.66R	HIRE
23	3.172	4.39	0.86	1.38	CW	NONE	ARTU
24	2.656	5.31	2.27	2.00	N	1.9R 0.25D	SHOW
25	2.625	2.66	1.22	1.01	N	NONE	RUBB

CW = clockwise 90 degree rotation
N = Normal
R = shifted towards the right
D = shifted down the page

GDEV=GDEVICE MEGA=MEGAFONT II+ PICT=PICTRIX
TYPE=TYPESETTER RAMB=RAMBRANDT HIRE=HIRESDMP.BAS
PICD=PICDUMP.BAS PAGE=PAGE DESIGNER ARTU=ARTUTIL.BAS
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1 ST WORD - A Gem of a GEM-Interface WP?

by Frank Sommers

Your first impression is proudly promising. The ST has its own word processor program with GEM draw-down menus. It swings along as you type. There's a Help draw-down which produces single sentence windows of encouragement on where to go to find each of the 12 functions listed. And the world seems right in its heaven. Atari has identified a British piece of software by GTS, brought it home and started giving it away with each new 520 ST.

In fact, you may even become excited as you type a few lines and then push the F3 function key to turn an entire paragraph or just a word into italics print, and bingo! there it is transformed in front of your very eyes. You do it again, making the paragraph not only italics, but also bold faced. The small icon windows beneath your text window that depict the function keys, F1-F10 lure you on to test their wares. The first four serving type faces, including light. The remaining keys permit you to switch from insert mode to type over, delete a line, start a new page, and center and indent text. The last key, [F10], is the key which allows you to "reformat" after making style changes or editing a paragraph.

It seems all there. You describe it enthusiastically to a friend, check with the computer store to see what their response has been, only to learn that it is no longer free! Yes, Mother Atari, for whatever reason, is now drawing down $29.95 per copy on a proud piece of their original bundle of software that accompanied each ST. Xmas is over. You also hear that the returns are "mixed". Not everybody apparently is totally enthusiastic. Back you go to the machine and 1ST WORD to sort it out.

A survey of the five pull down menus, File, Edit, Block, Style, plus Help does nothing to decrease your ardor. Admittedly accustoming yourself to draw-down commands vs key-control commands requires you attend to learning vs just typing away. But still cursor movement via the mouse is a pleasing novelty and effective, if you block out your old habits. Playing with blocks of text, accomplished by pulling a cursor line down along a sentence or a paragraph, as you would in blocking out icons or files to be copied in a batch, produces a sharp yellow blanket over the treated text. From there you may, using the Block menu, manipulate the block by copying, deleting, moving, cutting, pasting, or hiding, i.e. erasing the yellow blanket denoting the blocked text. If the yellow blocking is left in place, later you may jump back to it, from pages away by using the Find block command. By all evidence, the program works, thus far.

The Edit file. Aha! There you discover your first clue. All is not writing with 1ST WORD. You try to change margins; always sporting, when you can see text reformat before your eyes, per dimensions imposed by the computer god at the keyboard. The margin marker at the right of the ruler line jumps to attention at your click and skips obediently in 5 spaces. The left marker blows you a raspberry, or rather a tab marker each time you try to click on it. Faced with a bit of a problem of how to set left margins, you experiment with the Indent command. By indenting the first line of a paragraph and then reformating the entire paragraph, the margin can be made to move over as many tab stops as you elect. Seems suitable. That is until you finish the paragraph, and discover that each near paragraph requires similar special indent treatment. Not so smooth, mother. But still it is a bit exotic, using multiple windows, slicing ahead 20 or 30 pages in the 42-page User Guide you have up on the screen, and just generally letting the mouse dance for you.

Loading and saving files is rather routine. You've already experimented with some of the Style menu items via the function key commands at the bottom of the screen, at least with the three type faces. What about underline? Twenty minutes later you've decyphered how to underline a paragraph by multiple blocking and restyling commands, but have concluded that the underline feature could use some plastic surgery.

Sadness is creeping over you. This little gem of a GEM functioning word processor has a few too many holes in its linen. After completing the printing installation process, not too onerous and as outlined on page 40 of the Guide (there are three printer patches: an all purpose ASCII only, a Qume Sprint and an Epson patch), you print out a page or two of modified text to see how bold, italics, and light actually show up on the printer. They don't.

You try again. You click up the print command under the file menu; you then specify in the selection window that pops forth what file you want to print, which pages of it, and decide on NLQ or draft quality. With another click a window appears on the top left of your screen, titled "Teletyping" and the message, "Printing (your file name) in draft (or near letter quality)", and after the program is loaded, 40 pages takes about 20 seconds, the Epson FX80 leaps to life. But still no underlining, or italics, or bold face? What have you done wrong? At this point, your little gem has become a Pigmalyon in reverse. From lively model to ugly statue it has turned. The screen goes dark!

1ST WORD has genuine promise. With the bugs detected here eliminated the initial impression would have held, and we would be recommending this as the (underlined) neat little WP for easy quick get-it-up and get-the-job-done purposes. In fact most of what the average home computer user might need. But as it stands now, STWRITER bests it for any serious work, and REGENT WORD tops it quick as lightning in the ease of learning and immediate use category. (That may not be as true if it is your first exposure to a WP, an orienting yourself on a GEM interface WP doesn't include the ackward process of shucking off old habits.) But the end of the User Guide speaks of future implementations and enhancements including multiple fonts ala Macintosh. And already it has a unique facility permitting cursor placement on any letter and then drawing in from the margin any international character you desire to replace it. (Notice the accent on the ala!) *[However, if your printer doesn't support these characters, you're out of luck. Ed]*

It might be worth keeping our eye on new versions of 1st WORD; it could still turn into the gem it first appeared to be.

REGENT WORD — FAST, SLIGHT & SMOOTH

by Frank Sommers

Those of you who came early, got your ST520, and then looked hungerily for a WP (word processor), may now be looking at the same pleasant blue screen and dancing green cursor that beguiles me as I write. STWRITER was slow to arrive, and 1ST WORD was yet to be bundled and offered free with our Mighty Machine, and REGENT WORD was early choice. For those of you who are still wondering if there is word-processing luxury out there awaiting your decision, or for those of you who are curious how another would view your WP program, REGENT WORD, please follow me for a bit while we highlight, rate, evaluate, and state the stats on this trim, seemingly lightning-quick-to-master, electronic-bag of goodies.

Quick to master? The words above were typed, almost immediately after I loaded RW into the ST. I first toured the control and function keys, by hitting "Help" and then spacing thru them. Five screens that offer you the Function Key commands, F-1 thru F-10, then the cursor movement, delete, search and replace commands, the cut and paste, and finally two screens of printer control codes. You may flip to all commands by a tap of your small right finger on "Help" (as I just did to insure my enumeration of them). With no other familiarization with this program, I discovered you were up, up and away, much easier even than with 1ST WORD. This will likely be true for all of you who have used either ATARI WRITER, ATARI WRITER PLUS, PAPER CLIP, WRITER'S TOOL, OR LETTER PERFECT on the 8-bit machines, or STWRITER on the ST. The commands are mostly of a piece, and there is no experimenting with pull down menus, GEM interface being absent. So the azure blue screen is there, begging for decorating with little white characters and without hesitating you leap right into the briar patch.

You will be pleased, pleased to see your confidence building, as your cursor darts forward, no crashes, no surprises, and you realize you are writing with a program you haven't spent five minutes to learn.

For those who are opening their first WP screen, and trying to decypher, "CTRL X = Special Code > # ", yes, the learning time will expand, but probably by less than a factor of 10, and then you too will be skipping your green cursor along the blue, leaving a trail of white little words. And with the comforting assurance that there will be no digging in a manual, no hunting for the page where it tells you how to find your word count. None of that. Just ping on "Help"! And there it tells you, "ALT W = Word Count". (You have just read 442; please, no counting, my editor may have deleted half of them.) Tap, with the same finger on the next key on the right, and "Undo" blinks you back to the screen you're typing on. The next time you elect to the help menus, accidentally or by design, you pop into the same menu screen you were on at last departure. So if you are jittery about printer codes, or instead, cursor movement, you can dash back and forth between help and edit screens as you practice or edit, without even having to sort screens.

When you get ready to save that pleasing bundle of prose or the social science paper on "Reagan's Reaganauts", simple pressing F-2, and answering the query in green at the top left, "Save ? ", with a file name, and then hit "Return" and the Busy Bee tells you you are about to be home free and safe. Something that not all of us have experienced everytime we hoped to save our goodies, and thus it still tends to tighten those little muscles around the heart or at least focus the attention until you are certain it's happened as hoped. Then the glowing green all-is-well card, "Done Saving" flashes on at the top left of the screen and your brow unfurls.

You may still be reluctant to turn off the machine, pleased with the understanding that there is no complicated bowing and scraping to exit, you just throw the switch. But before you risk it, having been singed by Brother Bravado before, you judiciously decide to print a copy first. A flick to the command menu.... You choke. No where in the print commands does it appear to tell you how to fire up the printer. You whip thru it again; hurt not that you won't somehow be able to print your prose, but that the little beauty has a blemish. Nope! There on the second screen, under ALT commands, "ALT P = Print ", and you wonder why you even had to look. Yes, this little dazzler has Bank Street Writer right by the tellers, so much easier is it for beginners.

"ALT P" to start the printing produces a query at the top of the screen as to whether you wish to see it on the screen or the machine. If you select the screen, the Green Dragon tells you it is , "Now on Pg 1", then suddenly without your having seen a thing, it's on Pg 2, and you are somewhere in the middle of your text, and stopped. Nothing happens until you press a key, or the space bar and then it slams back to where you left your cursor before starting the print process and instructs you that the printing is finished. This curious print-to-screen caper remains unsolved thus far for this user.

But, select "P", and after answering four questions, you are rat-a-tat-tat printing away. Question one asks what printer you have:"Epson, IDS Microprism 480, Juki 6100, or Other". (Once selected this query is eliminated as you print other documents.) After citing the page of your document you wish to start with, which to end with, and have stated the number of copies, glory of glories (for those of you who have spent hours trying to get the first printed return out of a new WP) your azure prose flows, black on white, just as you composed it. If your printer has a buffer or you use a spooler program, e.g. MichTron Spooler, then while the machine is still printing you have returned to the end of your text on the screen, and can continue or start anew, while finished copy is tumbling out of your printer.

The printer controls are the standard for the normal WP, with the possible exception of "ALT C = Communicate" which permits you to transmit files; STWRITER has a similar capability. There is, however, apparently a limited flexibility in font or print variation. You have bold and elongated, and I say apparently, because there is also the curious "CTRL X = Special Code", cited earlier,

which may permit control codes to be inserted in your text to produce other modifications.

What are some of the limitations to a WP as trim as this one? For those of you who have flown the Star Ships, the big ones, that let you whip your cursor around like a comet, the simple arrow control, 4-way movement and beginning or end of sentence, plus one screen up or one screen down will seem a stricture. There is none of the see-it-on-the-screen razzle dazzle of the GEM interfaced Habawrite or 1ST Word, where bold becomes bold, or italics italics right before your eyes. There is no double column printing, or likely this WP might be producing the next Current Notes, so handy is it otherwise. It doesn't have those beautiful double windows, or a note pad, no footnote noting or indexing of the biggies. Other than headers, footers, and page numbering you're without jazz. But on first use to be up and running in 5 minutes is something else, is it not.

The specialties? Well, that little clock on the top right is ticking away, telling me, that since I started by association with REGENT WORD, a couple of hours ago, in writing these comments, I have not only put a chicken in the oven but have become comfortable with all the commands, and possibly lost some of my favoritism for my old favorites. Right now, if for whatever reason, say the CURRENT NOTES Editor was demanding instant copy, I would be inclined to jump up on REGENT WORD and ride with it, rather than resort thru my mind on what the more complicated commands of my other WP's were. It's all right here, easy and clear. And the bonus? I'm diving into REGENT SPELL two periods from now to clean it all up. That's right, it has a 30,000-word companion spell checker.

And what a checker. By contrast with HABASPELL, the words are displayed on the screen in a box showing the context, the entire sentence the word resides in. Then without typing a word, you are offered a choice of keeping the word, clicking on one of ten alternate words in a box on the left, which transports the new spelling to the box holding the word under scrutiny. A second click and it flips into the text, and the next word appears, or you may type in your own spelling, often necessary if the word is a bit arcane and not carried in the dictionary. In the ten word selection box, you also scroll forward or backward thru the dictionary, insuring that if the word is there and the dictionary has misinterpreted your intended but mis-spelled version, and a correct spelling is nearby, it is yours for the scrolling. A fast and handy utility, which those of you who select REGENT WORD for your constant processing companion, will use regularly, so easy is it to employ. Some of you may remember the "must I really" feeling you had at the prospect of getting out one of the 8-bit spell checkers and going thru the laborious process of interlacing it with your text. No more.

Well done, Regent Software.

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PERSONAL PASCAL
(OSS $79.95)
Reviewed by Ed Seward

Let me start with the disk and it's contents. Among the files on the disk are the required four program files: PASCAL.PRG, EDIT.PRG, COMPILER.PRG and LINKER.PRG. (More on these files in a little bit.) Also on the disk is a collection of demo programs, a list of errors found in so far and several "Include" files for accessing GEM.

The execution of PASCAL.PRG (the "Manager") places you in the Pascal environment. From this point you can choose the compiler and linker options and save them as the new defaults. There are three things I don't like at this level. The first is that when exiting the Pascal manager after compiling; it takes a few tries with the mouse to get window slide bars to work properly. Another is the editor and compiler can only use filenames with the extension of "PAS". This means one has to change the name of the file from the GEM Desktop. (One can display the whole directory from the Pascal manager, its just when a file with an extension other than "PAS" is used that kicks one back to the manager). The last thing is that on a one drive system all the required files must be on the same disk. This problem could be taken care of in a one meg machine with a ramdisk.

The Pascal Editor. Upon entering the editor one will notice a status line at the top of the screen. On the left end of the line is the name of the file being edited including the drive and path. The right side of the line is for the various indicators like: whether one is in "insert" or "replace" mode; if the auto backup is enabled; auto indent on/off. There is also a counter for the amount of memory available for the source code and the line number of the cursor's position.

The writers of Personal Pascal have set up the editor so as to make as many people happy as possible. For most commands, one has a choice of using "Wordstar" commands or using the cursor control keys. The availabilty of the "Wordstar" commands should make many people happy. Personnaly, I prefer to use the cursor keys. To move one character in any of the four basic directions, just use the appropriate arrow key. To move up or down one screen push a [Shift] key and an arrow key at the same time. The [Shift] left and right arrow keys allow one to go to the beginning or end of a line. When using the [Control] key with the left and right arrow keys, the cursor is moved to the beginning of the next word in the appropriate direction.

Besides the additional keyboard editor commands there are the commands using the function keys. To delete a line and place in the copy buffer just press the [F1] key. Pressing the [Shift] and [F1] just deletes the line. To insert the copy buffer at the cursor's position press [F2]. The "Find" a string command is [F3]. The search and replace string is [F4]. The [F5] key causes the last find or search command to be repeated. The auto indent is toggled on/off with [F6]. The [Shift] and [F6] toggles the "BAK" or auto backup state. Using [F7] allows one to save either the copy buffer or the complete text. One can read a file into the copy buffer using [F8]. The [F9] key saves the text back to the filename from which it was loaded. (If the backup is on then the original file's extension is changed to "BAK" before writing the text to disk.)

After writing the file and exiting the editor, the compiler is loaded and executed. (If there are no compiler errors and the option is set, the compiler will chain to the linker. Thus, with the push of a single key one can have an executable program.)

The Compiler. There are eight options available from the Pascal Manager. One is the choice to compile for GEM or TOS. The "Pause after error" option tells the compiler to pause or not after an error. If one does not pause after errors then all errors are written to a text file. If one selects to pause after error then when an error is found two windows will appear; one with the line of source code where the error was found, an error number and a text description of that error (if ERRORS.TXT is on the disk) and another window asking "Ignore Edit Abort". Ignore continues the compile; abort returns one to the Pascal manager. Edit exits the compiler, loads the editor and the source file, puts the cursor at the position where the error was found and displays the error message in the status line. The "Chain to linker" compiler option was mentioned earlier. The "Temporary directory" option allows one to specify a different directory/drive for the temporary work files. This option will be more useful after installing the TOS ROMs, upgrading to one meg or when using a hard disk.

There are three other options that are mainly for debugging. "Full debug mode" includes code such that the line number and the name of the procedure where an error occurred will be displayed. "Stack checking" and "Range checking" are self explanatory. If one tends to be a little lax in error trapping then the last two options may save some potential system hangs. The last option is to include code to clear all the local variables. I prefer to handle that myself.

I ran into one problem with the compiler. I made an error in an include directive that resulted in about twenty-five errors. Not using the "Pause after error", as near as I can tell, the compiler ran out of room on the disk. (The system was not hung in the true sense as it knew when a disk was inserted into the drive and would run the motor.) There was no error message -- just nothing at all. True, I could have made sure there was more than a few k-bytes of space left on the disk. There should have been some kind of message and a way to get out of it without rebooting the system.

While the compiler is running it displays the error count, each include file's name as they are included and a cancel button to abort the compile. The only thing I'll mention about the linker is that one has the option to link for TOS or GEM.

Personal Pascal. So far I haven't found any of the ususal Pascal features missing. Several ones have been added. String and byte were to be expected and are

supported. Also included is Long_Integer. The limit for integer types (Maxint) is 32767 and Long_Maxint is 2,147,483,647 for long_integer types. Two functions "Shl" and "Shr" have been added to work with integer types as shift-left and shift-right. The usual string handling routines are included; Concat, Copy, Length, Delete, Insert. Random disk access is also supported with a Seek procedure. There are also a couple routines to access the TOS command line; Cmd_Args returns the number of arguments in the command line, Cmd_GetArg gets a command from the command line. The list of predefined portions of Personal Pascal below are from the manual.

Predefined Data Types

Alfa	Byte	Boolean	Char
Integer	Long_Integer	Real	String
Text			

Predefined Constants

False	Input	Long_Maxint	Maxint
Nil	Output	True	

Predefined Procedures

BasePage	Chain	Cmd_GetArg	Delete
Dispose	Erase	Get	Halt
Insert	Mark	Message	New
Pack	Page	Put	Read
Readln	Release	ReName	ReSet
ReWrite	UnPack	Write	Writeln

Predefined Functions

Abs	ArcTan	Chr	Clock
Close	Cmd_Args	Concat	Copy
Cos	Eof	Eoln	Exp
Filename	Handle	KeyPress	Length
Ln	Long_Round	Long_Trunc	MemAvail
Odd	Option	Ord	Pos
Pred	PwrOfTen	Round	Shl
Shr	Sin	SizeOf	Sqr
Sqrt	Succ	Trunc	

There are 90 pages of documentation for the non-GEM portion of Pascal.

Personal Pascal & GEM. There are 98 routines for accessing GEM and 134 pages of documentation for those routines. There is routine for doing alert boxes and it is plenty. Most of the other routines can be grouped into four catagories: dialog boxes, windows, the menu bar and event management.

Two dialog boxes are very easy to implement. One is to select an input file and another is to select an output file. Then there are numerous routines used to set up a box including setting the type and color of text, buttons and valid characters for an editable text field. There are step-by-step instructions for setting up a dialog box along with good explanations of the routines.

I haven't used the windows much -- yet. I haven't used the rest of the routines at all. There are twenty-two window routines just for text styles and graphics. These include rectangle, oval and arc drawing, cursor move, plot and line drawing. The menu bar routines provide all that is needed for one to do there own drop down menus.

Documentation. With one group of exceptions I would say the documentation included with Personal Pascal is excellent and all one should expect. The group of exceptions are three directives: GEMDOS, BIOS and XBIOS. They are mentioned as existing and taking one integer parameter each. (My understanding is that the number of parameters should vary.) As I write this in early February, OSS has said they will be making the documentation available in a few days.

The rest of the manual I found to be very complete and easy to find the information I needed. This manual is not meant to teach Pascal and as such it does not waste any space on a tutorial.

Features (bugs). I have come across two bugs besides the two I mentioned earlier. First, 'Read' and 'Write' only work on text files. I played with this for a while before using 'Get' and 'Put' as shown in the manual. The other problem is that the manual says 'Insert' can have a "packed array of char" as the source to be inserted into a string. I used other means to do it one character at a time.

I called OSS today to verify these bugs. The guy I talked to said they are getting ready to release a small patch to take care of the problem with the slidebar when exiting Pascal. The 'Insert' problem is probably a documentation error. OSS should be coming out with the next version of Pascal in April. There may be a patch to take care of the 'Read' and 'Write' problem before then, if not, then that release should take care of the problem.

Performance. Like any person with a new language for their computer, I was anxious to run some benchmarks. In the table on the next page are six different time tests. Two of the programs I converted from a review of MODULA Compilers in the October 1985 issue of Computer Languages magazine ("Microcomputer Modula-2 Analysis" by Namir Clement Shammas and Ken Magel). [Modula-2 is basically an enhanced version of Pascal.] Two others are fairly standard but taken from a Turbo Pascal 3.0 review in the February 1986 issue of Byte magazine ("Turbo Pascal 3.0" by Mark Bridger). The magazines gave times for these tests on the IBM PC (with and without an 8087) and one test of MacModula-2 on the Macintosh. I ran the same tests on the 520 ST using OSS Personal Pascal and also, for comparison, using TDI's Modula-2.

As you can see the times are pretty good. The times for the Modula-2 package on the ST are particularly good but note that the file sizes are much larger than those developed using Personal Pascal. I found the system easy to adapt to and friendly to use. There are quite a few error messages to make finding the syntax errors a little easier. I also liked the full debug mode as a compiler

	RUN TIMES							FILE SIZES			
	OSS	TDI	Turbo PASCAL		Modula-2		MacMod-				
Test	PASCAL	MODULA	Version 3.0		.COM	Mcode	ula-2	OSS PASCAL		TDI Modula-2	
Program	520ST	520ST	IBMPC	w/8087	IBMPC	IBMPC	Mac	Source	Execute	Source	Execute
SIEVE	7.5	6	13	--	8	123	80	794	4559	732	21682
CALC	7.2	3	32	6.5	--	--	--	333	6593	430	21648
FLOAT	20.5	20	65	3.0	--	--	--	339	8447	403	25372
SORT	<1.0	<1	--	--	2	15	30	1332	4892	1224	21964
MATRIX	3.5	2.5	--	--	11	20	13	1364	11461	1598	22574

option. Even with the bugs I mentioned I think Personal Pascal is a good way to take advantage of the ST's features.

I am including the source code for the above benchmarks to make it easier for standard tests on the new languages becoming available for the ST.Try these out on other computers or other languages on the ST and send the results into CURRENT NOTES.

```
PROGRAM sieve(OUTPUT);
CONST size = 8190;
VAR count,i,iter,prime : INTEGER;
    flags : ARRAY [0..size] OF BOOLEAN;
BEGIN
  Writeln('START');
  FOR iter := 1 TO 10 DO
  BEGIN
    count := 0;
    FOR i := 0 TO size
      DO flags[i] := TRUE;
    FOR i := 0 TO size DO
      IF flags[i] THEN
      BEGIN
        prime := i + i + 3;
        k := i + prime;
        WHILE k <= size DO
        BEGIN
          flags[k] := FALSE;
          k := k + prime;
        END;
        count := count + 1;
      END; { if then}
   {end for i} END; { for iter} Write(count);
 Writeln(' primes found');
 END {program sieve}.

PROGRAM calc (OUTPUT);
{from February 1986 Byte magazine}
VAR a,b,c : REAL;
    n,i,t : INTEGER;
BEGIN
  Writeln('START');
  FOR t := 1 TO 10 DO
  BEGIN
    n := 5000;
    a := 2.21828;
    b := 3.14159;
    c := 1;
    FOR i := 1 TO n DO
    BEGIN
      c := c * a;
      c := c * b;
      c := c / a;
      c := c / b;
    END;
  END;
  Writeln;
  Writeln('Error = ',c-1);
 END {program calc}.

PROGRAM float (OUTPUT);
{from February 1986 Byte mag.}
{I didn't add in other real functions}
{so as to keep 'float' standard.      }
VAR i : INTEGER;
    x,y : REAL;
BEGIN
  x := 1;
  FOR i := 1 TO 1000 DO
  BEGIN
    y := Sin(x);
    y := Ln(x);
    y := Exp(x);
    y := Sqrt(x);
    y := Arctan(x);
    x := x + 0.01;
  END;
END {program float}.

PROGRAM CLMySort (OUTPUT);
{converted from Computer Language mag}
{MODULA listing in October 1985 issue}
{Program will test the speed of sor- }
{ting an integer array.  The program }
{will create an array sorted from    }
{smaller to larger integers then sort}
```

```
{them into reverse order.             }
CONST max = 1000;
TYPE  numbers = ARRAY [1..max] OF INTEGER;
VAR done : BOOLEAN;
    jump,i,j,temp : INTEGER;
    a : numbers;
BEGIN
  Writeln('Initializing integer array');
  FOR i := 1 TO max
    DO a[i] := i;
  jump := max;
  Writeln('Beginning to work');
  WHILE jump > 1 DO
  BEGIN
    jump := jump DIV 2;
    REPEAT
      done := TRUE;
      FOR j := 1 TO (max - jump) DO
      BEGIN
        i := j + jump;
        IF a[i] > a[j] THEN
        BEGIN
          done := FALSE;
          temp := a[i];
          a[i] := a[j];
          a[j] := temp;
        END { if then};
      END { for do };
    UNTIL done;
  END {while};
  Writeln('Finished sorting!');
  FOR i := 1 TO max
    DO Write(a[i],'    ');
  Writeln;
END {program CLMySort}.

PROGRAM CLMatix(OUTPUT);
CONST n = 20;
TYPE row = ARRAY [1..n] OF REAL;
     table = ARRAY[1..n] OF row;
VAR a,b,c : table;
    sum : REAL;
    i,j,k : INTEGER;
    ch : CHAR;

PROCEDURE FillA;
VAR i,j : INTEGER;
BEGIN
  FOR i := 1 TO n DO
    FOR j := 1 TO n DO
      a[i,j] := i + j + 2;
END {procedure filla};

PROCEDURE FillB;
VAR i,j : INTEGER;
BEGIN
  FOR i := 1 TO n DO
    FOR j := 1 TO n DO
      b[i,j] := (i + j + 2) DIV (j + 1);
END {procedure fillb};

PROCEDURE FillC;
VAR i,j : INTEGER;
BEGIN
  FOR i := 1 TO n DO
    FOR j := 1 TO n DO
      c[i,j] := 0.0;
END {procedure fillc};

BEGIN
  sum := 0.0;
  Write('Press <CR> to start');
  Read(ch);
  Writeln;
  FillA; Writeln('A filled');
  FillB; Writeln('B filled');
  FillC; Writeln('C filled');
  FOR i := 1 TO n DO
    FOR jk := 1 TO n DO
      FOR k := 1 TO n DO
        c[i,j] := c[i,j] + a[i,k] * B[k,j];
  Writeln('Multiplied');
  FOR i := 1 TO n DO
    FOR j := 1 TO n DO
      sum := sum + c[i,j];
  Writeln('sum = ',sum);
  Writeln('End of program');
END {CLMatrix}.
```

Atari ST BBS

Reviewed by
William A. Van Nest Sr. ("Van")
SysOp of the CompuServe OS9 Sig (GO OS9)

Have you always wanted to run a BBS, but couldn't afford the software or find the time to write your own? Or spend the time required by most BBS packages just to start it up? Well, your wish has been heard! Now you can have your own BBS running within 30 minutes, for only $49.95! MichTron, an early and reliable supporter of the Atari ST, has written and produced a small, fast, and easy to maintain BBS. The software also runs on the IBM PC and some Sanyo computers, and is IDENTICAL to the ST version.

The BBS may not have all the "bells and whistles" that some packages offer, but here's what it DOES offer:

16 Sigs, or Special Interest Groups. Use as many or as few as you need. Each Sig can have it's own upload and download area, or any number of Sigs may share the same areas. Each user can be limited to any number of Sigs. In other words, you can have public and private Sigs, and permit access as you desire.

The message base can be as small or as large as you like. It can be read by Sig or in whole from any Sig, access permitting. Messages are up to 14 lines long at present, and can be edited after entering. Messages can also be private from user to user, but the SysOp can read all mail. The message base and downloads are limited ONLY by the size of your available disk. The more disk you have, the more you can use. YOU specify how many active messages may remain on the board.

Uploads are not enabled until the Sysop has reviewed and moved them to the download area.

The BBS supports Xmodem (checksum) and DFT (Direct File Transfer) protocols for error free file transfer. ASCII (no error checking) transfer is also supported.

The Sysop has a private message area which allows users to leave a private message to the sysop before logging off. The sysop also has full, easy control over all user records. He/she can set new member validation to very little access permission, or auto validation as a full registered user. The sysop may also permit "Professional Programmer" access for limited, remote sysoping, or even full Sysop access.

The sysop also has full control over the message base, and can change the status of any message on the board. Such things as editing the text of a message, making it private or public, deleting it, reopening a deleted message, etc.

While a user is logged onto the BBS, the sysop will see EVERYTHING the user sees, and can even assist the user while online! If the sysop types a command, it works exactly as thought the user typed it. There is also a "chat" mode which permits the sysop and a caller to converse directly through their respective keyboards.

The sysop can do most BBS maintenance by logging onto the BBS through the keyboard, just as a user would, which also permits remote BBS management. Without logging on or stopping the BBS, the sysop can also edit the user records, do download maintenance, and much more.

Also, without shutting the BBS down, the sysop has access to a "mini terminal" program that can be used for logging on to other BBS's, CompuServe, etc. It even has DFT and Xmodem file transfer! So, you actually get a BBS *AND* a very good terminal program as well!

What hardware do you need? You need an Atari ST, at least one floppy, single or double sided, color or monochrome monitor, and a modem. That's all! You could use a manual answer modem, but that means you have to answer the phone. With an auto answer modem, you do nothing! The system will automatically repond at the proper baud rate, 300, 1200, or 2400 baud, and upon one carriage return from the user, adapt to 7 or 8 data bits, even or no parity. This permits support of most computers! Your BBS can support virtually any computer you like, or any subject/topic at all!

If you have two floppy drives, great! You can have more downloads and a larger message base. If you have a hard disk, then you really have room! If you only have 1 single sided floppy, you can still have about 280K for your message base and downloads, depending on your bulletins and news files. It's all up to you! Mine is running on ONE SF314 (720K) ST floppy and has been for 4 weeks now, with 50 messages active and plenty of downloads. I plan to add a 5.25 drive soon and a hard disk when I can.

If you have a printer on the parallel port, and it's turned on, the BBS will log each caller and a brief activity summary. If the printer is turned off or not connected, the BBS will just ignore it. With the printer, you can get user listings, download listings, print the mail, etc.

Summary and Personal Opinion

I have been running my BBS whenever I'm not using the ST, since the first beta version. I originally set it up without ANY documentation, and had it running withing 1 hour! Most of that time was in creation of bulletins, news files, and formatting a disk or two! That's how easy it is. Now, several revisions and many enhancements later, it's even easier and more flexible. I've tried to start a BBS with other computers and software before, but it was just too time consuming and wasteful of disk. This BBS requires approximately, on average, 20 minutes a day of my time. Most of that is answering messages and enabling uploads. That's all! The BBS is very easy to use. It uses 1 character commands that are logical and easy to remember. For help, all a user need to is press Return. It's very simple, and really is just a message base and up/download system. Because it's limited to these two main functions, it is small (70+k) and extrememly fast. Written entirely in C.

Future versions will support such things as nested messages, or "threads" which permit reading through a string of related messages, rather than reading them in sequential order, sattelite utilities to make maintenance of user records, etc., much faster and easier, disk cacheing (buffering) for faster file access and up/downloads, and much more!

After 14 years of being an Operating Systems and Time-Sharing systems specialist, 4 years using CompuServe, and 2 years as a CompuServe SysOp, I can safely say that this BBS package is excellent, whether for a part time hobby or a full time, dedicated BBS. I highly recommend it, and I will actively support and help any MichTron BBS purchaser. All you need do is leave me a message on my BBS at 301-982-5380 (Greenbelt, MD) or on CompuServe through the OS9 Sig (GO OS9) or in EasyPlex to ID 76703,467.

The BBS is available from your nearest Atari ST dealer or from MichTron Inc., 576 S. Telegraph Pontiac, MI 48053 Voice - 313-334-5700, BBS - 313-332-5452

MichTron has been a long time supporter of the Tandy Color Computer, the Sanyo, the IBM PC, and now the Atari ST series. The BBS was written by Timothy Purves, and excellent programmer who has also written other popular ST software such as, M-Disk, Soft Spool, MichTron Utilities, MI-Dupe, and the MichTron ST Shell (COMMAND.PRG). These and other fine programs are also available from MichTron or your local dealer.

The RUMOR MILL
by Joe Waters

I have some corrections on last months "rumors." The **IBM emulator for the ST:** will not have the 8087 chip included, everything else (520K, 8080 chip, disk drive port, 100% MS-DOS compatibility, and $199 price) still holds. The prototype will be shown at the Hannover Fair in West Germany this month. I understand that the emulator does run LOTUS (and SYMPHONY). **The "blitter" chip:** not 500 times faster, only 100 times faster and the chip IS NOT a math co-processor. There have been some rumors that the new STs would include a socket for this new chip. Not so. To install it, you will have to remove the 68000, install a daughter board, and put the blitter chip and the 68000 on this board.

While on the subject of emulators ... what's the most popular computer (and software) in the elementary and secondary school systems? Apple II. Guess what computer company will be releasing an **Apple II emulator** in two months for a machine called the "ST". You got it!

The TOS ROM chips? They have finally arrived in DC. Several of the local retailers tell me they are available and you can get them (installed) for $25.

ST LOGO replaces ATARI LOGO. Atari is shipping an expanded and revised version of LOGO with the new STs that is much faster and includes six new primitives (CALL, SOUND, FULLSCREEN, SYSFACTS, .WDEPOSIT, and .WEXAMINE). See your dealer or local Atari club to get the new disks.

Want a Laser Printer? As some of you know, laser printers are all the rage. Quick, excellent copy, but at a price. Cheapest available at the moment is just a hair under $2,000. But, be patient. Look for an Atari laser printer this fall, equivalent to the Canon Laser, priced at $1,200. Enhancements, which will come later, will give this printer a 400 dpi resolution and allow it to compete directly with the Apple Laserwriter.

Are you into CAD/CAM (Computer Aided Design/Computer Aided Manufacturing)? The new Atari TT (using either the 32032 or 68010) will be just what you need. Running CAD/CAM software or Unix Version 5, you'll have a low resolution screen of 1024x1024 or high resolution of 2048x2048 with 16 million different colors. Price including a 20MB hard drive will be about $3,000.

Want to link STs in your office? Watch for a 32-bit workstation unit to support a local area network of up to 32 STs, with massive amounts of hard disk storage. Units will be linked via the DMA port and will run under AT&T Unix Version 5.

Software News. The quantity and quality of ST software continues its steady climb. VIP has, indeed, shipped their **VIP Professional**, a Lotus 1-2-3 clone. The first disks on the street had a number of bugs in them and the memory constraint was quite severe. However, the arrival of the TOS ROM chips will take care of memory constraints and VIP has been fixing the bugs and releasing "patches" which now make this an excellent program.

Those of you waiting for a strong database program now have **H&D Base** ($100) available. This dBASE II clone gives the ST a strong and versatile database management package. Within two hours of having opened the package, I had transferred dozens of files totaling several thousand records from dBASE III on an IBM to H&D Base on an ST. This product too has some early bugs, but they are being corrected and Mirage anticipates providing a continuing series of enhancements to the package.

Mirage will have to keep working on enhancements because Versasoft Corp will soon (April 1) be releasing their **dBMAN** database management product. This system is (90-95%) dBASE II and dBASE III compatible and has a whole host of functions built into the language. Retail price will be $149 (with a 30-day money-back guarantee) but a special $99 intro price will be in effect until July 1. I will try and get a fully operational demo disk (30 records max size) for our ST library. For more info call 408-268-6033.

New AMIGA OS. As some of you may be aware, Commodore has been having some trouble with the AMIGA operating system. Company execs are now looking to rewrite the operating system from the ground up.

NEIL HARRIS' TALK
At San Leandro CA Computer Club
By George Langworthy

February 4, 1986. Neil Harris discussed a wide range of subjects covering 8 bit new products, 16 bit products out or nearly out and future products and nonproducts. They are divided up into three groups below. The reporter's comments and interpretation are in brackets[ ]. Otherwise the statements are Neil's or a paraphrase.

Atari 8-Bit Products: 130XE

A $399 list package is being delivered through computer dealers and mass merchandisers which include: 130XE, 1050 drive, 1027 printer, cables, 5 software packages. Announced to Dealers at CES Las Vegas, January 1986. [A real buy.] -- 3 1/2" disk drive prototype is floating around for 130XE and is likely to get out the door late this year. -- There is a box for the 130XE with a parallel printer port and 80 columns in some stage of development. No release date. -- No word about a 260XE but may come out sometime. -- STAR RAIDERS game may be available in mid March. -- PLANETARIUM by DELTRON coming out for 130XE around March 1. This has won several best educational software awards for Commodore version. ST version out mid-April to early May. -- Only new printer for 130XE will be the dot matrix XM801. No release date. -- No hard disk for the 8-bit line is planned.

ST Products; 520 AND 1040

Next revision of TOS in ROM will be out in summer 1986 or later. -- There will be a patch in the hard disk boot program to take care of this problem in TOS: after too many openings and closings of GEM windows, TOS quits taking any more. -- 20 megabyte hard disk has been delivered to developers; hardware fine. Cleaning up software as in #2. Should be available late February or early March. -- JOUST in process for ST. No release date. -- Unauthorized version of CP/M software emulator for ST done in Germany that showed up in USA didn't work with TOS in ROM. Running fine with Wordstar and Microsoft BASIC faster than Z-80. To be released by ATARI probably in March. -- MS-DOS Emulator is a hardware and software black box with an 8088 chip and 512K of memory. Plugs into DMA port. Will list for about $200 without 5 1/4" drive and run faster than a standard IBM PC. Because of hardware development needed, release date not firm now. -- No tape drive backup for hard disk planned at present.

-- H & D Base clone of DBase II is a Forth language program with DBase-like commands. Runs faster on ST than DBase II on IBM PC. Out now. -- The DRI GEM vs APPLE controversy has no effect on ATARI, as ATARI is a licensee of DRI. If there is a future problem, ATARI will deal with it at that time. -- GEM PAINT, WRITE, CALCULATOR and DESKTOP ACCESSORIES are still under development. No release date. -- BORLAND has announced they will have TURBO PASCAL for the ST. [BORLAND San Jose Mercury News display ad, Sunday, February 2, 1986 was for programmer and engineer for CD ROM product development. Turbo Lightning improvement could be retrieval "engine" for information placed on CD ROM disc.] -- RISING STAR's MIDI program coming along. ATARI has first refusal on VALDOCS software it might want. -- ACTIVISION's MUSIC STUDIO 16 channel MIDI software to ship in February. With electronic keyboard and drums, sounds like a full band. Other MIDI software due from HYBRID ARTS. -- No SCSI adapator in works for ST line. -- OS-9 operating system in development for ST. No release date.

Other Products Talked About But Not Officially Announced

AMY music chip proved to be too complex and expensive to develop for the potential ATARI market. Turned over to SIGHT AND SOUND to develop for synthesizer market, with ATARI retaining rights to computer market. No release date. -- 1200 baud modem for ST under study but not under development at present. -- In response to question about EXCALIBUR, response was that ATARI was in advanced stages of negotiation with major telecommunications network to revive APX for both public domain and low cost commercial software. This will be ATARI's own SIG system. -- Bit blitter chip for improved graphics and other information about rumored products covered in BYTE March 1986 article, out in late February. Will talk about products to be introduced at March Hannover Trade Fair, West Germany. [Atari 520 ST reported by Atari and others to be best selling microcomputer in Germany.] -- TT 32-it add on computer box to contain memory management chip. It is designed to be a high-compute processor system, a "VAX on a desk," running some version of UNIX with foreground/background processing. [32 bit internal and external processor chip selection not made or not known by outsiders. Amount of memory not known.] Release date not known. Very much guess as to price is $1,000.

CREATIVE PROCESS—
An outline processor
Reviewed by Don Tucker

What is "Creative Process"? Just the first Atari implementation of the hot new concept of outline processing -- and on balance a good one. For those who do expository writing, this could expand substantially the power of your 8-bit Atari as a writing tool. It's by Dave Thorson and is sold by Antic out of their catalog at $19.95.

THE CONCEPT

Outline processing is meant to help people, like me, who have trouble getting their thoughts organized when they have to sit down and write something. It provides a framework for jotting cryptic notes to yourself, moving them around, adding headings here, related ideas there, and gradually building a structured outline of what topics you need to cover. At the same time, you can begin to develop longer bits of text to fill out each outline point, and then, with a keystroke, stash away the fragments of text off the screen (on disk or RAMdisk), to recall later as needed.

The power of this type of software comes from the immense flexibility it gives you in manipulating ideas and text quickly in the early stages of writing. When you have put together some text to cover a point or a set of related points, it is a breeze to rearrange the text merely by moving outline points from place to place in the outline. The text (still off-line, on disk) moves with the outline points.

The technique used, of course, is to employ true random disk access by storing with each element of the outline the NOTE and POINT information giving the disk location of the associated text. When outline points are moved around, the text stays put on the disk. Forget about clumsy block moves of text back and forth (unless you want to -- see below).

An outline processor does not replace your word processor, however. Its text editing capabilities are distinctly limited -- in the case of "Creative Process" I would call them rudimentary. But at any stage you can dump either your complete text or selected parts, organized according to your outline, into a disk file to be picked up by your word processor. You decide when to switch over.

CP'S IMPLEMENTATION

"Creative Process" (CP) is designed as an ambititious implementation of the outline processor concept, and it succeeds to a fair degree, within the constraints of the Atari 8-bit system. Its basic capacity, which is determined by disk storage limitations, is 102 points and subpoints of outline in a single density disk file, with up to one screen (20 lines) of text for each point. That is theoretically over 40 single-spaced pages of 50 lines each, but in practice you will have much less since many points will have at most a few lines of text.

With enhanced or double density disks CP's capacity is supposedly increased correspondingly -- although this feature would not work for me on a 1050 drive (see below).

CP gets high marks for the ease with which you can create and modify your outline. Each outline point occupies one line on the screen, and you can scroll up and down by line or by screen very quickly. The hierarchy of points is clearly displayed through indenting, with nesting permitted to a depth of 22 levels.

The macro command for moving a point and all its subpoints is easy to use. Another powerful feature permits masking out all subpoints deeper than a certain level, so as to focus on the main outline elements. A third capability permits selecting for display just one major point and all its subpoints, again so as to screen out the stuff you don't want to look at right now.

This selective screening, incidentally, does not affect the content of the outline in memory or as it is stored on your disk file. It is a display tool rather than a content modifier.

Migrating back and forth between outline mode and text mode is done conveniently with the START key which brings up (or stores on disk, going the other way) the text for whatever outline point you were on. The outline display shows a "T" at the margin of each point for which text has been stored, so you don't need to recall it from disk to find out whether you have some text.

The text editor is primitive and a little quirky, but it works, and it's quick. There's a small danger of losing characters off the bottom or sides, but it does have word-wrap, at least for shorter words (it failed to wrap the word "implementation" for me).

The most obvious limitation, especially for people who equate wordiness with productivity, is the 20-line limit for each text screen. In a sense, this is part of the enforced discipline of this software, however: you have to identify and fit into your outline a new outline point for every 20 lines of verbiage you spew forth. That's hard sometimes, but believe me, it makes you figure out just what points you're trying to get across.

CP does include a nice block-move and block-copy command for carrying blocks of text from one screen to another. (The buffer is called a "window", although it hardly matches my notion of a true window.)

Your outline, your text, or both together can be printed out in text form, either 40-columns or 80-columns wide, on printer or disk. Sending a formatted copy to a regular disk (NOT your outline data disk) is how you transfer the whole shebang over to your word processor. The resulting disk files can be picked up by any word processor that reads Atari DOS-compatible files. I've had no trouble moving my CP text over to Atariwriter Plus.

A few nice added features worth mentioning are the overlay "help" screens that you call up with the OPTION key, the ability to set and forget the screen color and

character luminosity and contrast (it's saved with your outline), the ability to embed printer codes in your text (escape characters and all), and fairly thorough documentation (on the reverse side of the disk).

PROBLEMS

So, what is this: a whitewash job? Not quite! There are problems, some of them serious. The cursor moves around TOO FAST (even on an 800, which I am using to write this review). The documentation is absolutely brimming with typographical errors. The outline screen refills too slowly after a change. But the biggest problem is that two of the documented features simply do not work in the version 1.4 I purchased locally in late December, and only one of them has been fixed in version 1.5 now available from ANTIC.

The first and most serious disappearing feature is the inability to use enhanced 1050 disk density for added file size. The utility program for setting up a data disk invites you on the screen to enter "E" if you want enhanced density, but it gives you single density instead when it formats. If you give it instead a disk that has already been formatted in enhanced density, CP recognizes it as enhanced and proceeds to kick it off as unsuitable.

This is presumably a fixable bug, but very aggravating, and this is the bug which has NOT been fixed in version 1.5. The limited file size permitted on single-density disks is the biggest limitation of this entire system, and I hope Antic will see that this is straightened out quickly.

The other documented feature I found that does not work in version 1.4 is the copy function in the outline mode. You are supposed to be able to take a block of subpoints and paste a copy elsewhere in your outline, but what you get instead is pure madness. It's actually worse than a nonfunctioning feature because it malfunctions without warning and permanently garbles your outline. It tied me in absolute knots until I gave up and started over, taking care to avoid the copy function. This problem has been corrected in the latest version.

Then there's the problem of what to do when you accidentally get a point into your outline that you don't want. You can't delete points just by themselves! If you delete a point that has subpoints, all the subpoints go also. If your erroneous point has no subpoints, you're fine, but it's very easy for your clutzy fingers to hit the wrong key and presto: all those subpoints you were working on have become the captives of a new nonsense point at a higher level -- and you can't get rid of the damn thing without a lot of messing around.

The solution would have been simple: "escaping" from a point with no text, which you can do now, should wipe out just that point by itself, without touching the subpoints.

Finally, be warned that making backups of your outline data files is not easy or foolproof. Backups of just the outline, WITHOUT the supporting text, can be readily made by saving the outline to a separate outline disk, but the only way I have found to back up your outline file WITH text, in the special outline format used by the CP program, is to duplicate the entire disk using DOS, which is slow and can't be done from CP.

The other approach for making backups, which seems to be more satisfactory if you have 2 disk drives, is to list out the outline and text to an UNFORMATTED text file on a backup disk. CP cannot read this text file back in, but there is another utility program for converting unformatted text files back to the proper form so that CP can read it. The process works -- its just clumsy. Finally, CP and the utility program use a rigid file naming convention for the text files that makes it easy to wipe out other backup files without realizing it. You are not permitted to name your text files.

THE BOTTOM LINE

"Creative Process" is, on balance, a successful implementation of a very powerful software concept. It truly extends the frontier of what you can do on your Atari -- even an old 800. If Antic will clean up the bugs and achieve a little circulation for it, this program will definitely enhance the image of the Atari 8-bit computers as "serious" machines. My Apple friends (few in number) don't even having anything like this!

Programmers should also take note of the fact that this program was written in Atari Basic, but there is nothing slow about it (except the unnecessarily slow screen refresh mentioned above). It shows what can be done to create a good commercial product using Basic. The missing link is that it was compiled with the venerable but immensely powerful ABC Compiler of Monarch Data Systems. I'm very impressed.

The biggest design weakness of the program is its inflexible limitations on outline size and text screen unit size. CP permits only as many outline points as can be stored on the disk IF EVERY POINT HAS A FULL SCREEN OF TEXT ATTACHED. If you write only 5 lines of text, you have 15 lines of spaces stored on the disk, which is clearly wasteful.

Limited disk space could be used more intensively, permitting substantially more outline points, if text were stored in half-screen or quarter-screen units (10 or 5 lines each). These units should be invisible to the user, so you could still write a whole screen of text if you want, without caring how it is stored on disk. The point would be to subdivide the text screens for storage purposes to allow more points when you are not writing a whole screen for each one.

One final note about Antic support. When I called Antic to ask whether they had fixed the copy bug, they sent me an immediate replacement by first class mail which was nice. On the other hand, they added a new bug in version 1.5. The utility to convert text files back to outline format is now misnamed WP2CMP on the disk and will not load from CP's menu. It loads fine from DOS or you can rename it back to WP2CP. One wishes ANTIC would take the trouble to check software like this before releasing it to stores to make sure the documented features are working.

"Smart Duck" Modem
Reviewed by Jack P. Durre'

A mail order catalog from DAK Industries, Inc. recently arrived in my mailbox, and as is my usual wont, I eventually got around to thumbing through it, glancing over all of the latest "yuppie toys", and other items. As I happened upon one page containing a headline proclaiming a "1200 Baud Smart Duck" modem, I casually glanced at the bottom line, and then started hunting all over the page for the price (this is one of DAK's usual practices...make the reader *read* the copy!), and upon discovering that it was $169, I *had* to read more!

Now for those of you who don't remember, or never saw my first article (what!?), regarding the questionable value of a 1200 baud modem,you can't appreciate the turnaround that had brought me this far. When using my old faithful Atari 800, I seldom tried to move many programs by modem (probably due to difficult software!), and for text work, the 300 baud rate was more than sufficient. However, since obtaining my ST, I have had constant regret that I did not have a 1200 baud system, due to the large size, lengthy download or upload times, and *need of*, programs for the ST. Now, here was my chance to economically own a faster unit, which claimed to be Hayes-compatible (how many have you seen that claimed otherwise?). Wellsir, I decided to take the chance, after seeing many people discussing the unit, but no one saying anything about using it.

(For those who are, by now, concerned with the "Duck" appellation, let me quote a line or two from the advertising copy..."If it walks like a duck, sounds like a duck, and looks like a duck, it darn well better act like a duck." The duck, of course, is a Hayes 300/1200 baud modem.) In spite of the fact that I ordered the unit during the height of the Christmas mailing onslaught, I received my unit, UPS, in one week. I immediately opened the package, took a fast look at the manual that came with the modem (43 pages worth, if you're one of those people who actually *reads* documentation!), swapped it with my Hayes 300, and booted up. As it turned out, I had more trouble configuring ST-Talk 1.0 to the modem, than I did using the modem itself, but that's another review!

Yes, it IS Hayes-compatible...at least more than enough for my purposes. As has been pointed out by several people, if a modem were *truly* "Hayes-compatible", it would have to be a Hayes! While that's quite likely to be true, I have not yet had any difficulty in using Hayes-type commands with the modem. For my purposes, that's all that I ask, for me to consider it to be compatible. If you are a telecommunications programmer, or engineer, or even a serious "hacker", I leave you to your own decisions.

Okay, we've now established that I bought a nice modem from some mail-order house for a good price, and that I can use it with my computer and terminal program. Is that it? - NO! This is just the beginning, so far as I am concerned. Let's run through a quick list of the additional features that the "Duck" has, as opposed to the Hayes. The first, obvious item has to do with the power supply...it's built-in to the modem itself, so that you don't have another "brick" hanging from your power strip! That might tend to add some heat problems, you say? Well, my unscientific approach is to put my hand on the top of the case, and it feels every bit as warm as my Hayes...but no warmer, either! Okay, that's nice, but consider those little DIP switches on the Hayes that require you to break any fingernails that you have, or mar the finish of your modem, attempting to get to them, and then you have to refer to the manual as you reset them. No longer! These switches (12 of 'em) are located on the underside of the case, exposed to instant access, (the case is the same size as a Hayes, of two tones of grey plastic, and quite a nice complement to the ST's own grey case), and with a lable alongside, listing the purpose of each! It also includes both an "in" *and* an "out" modular telephone connector on the rear, so that you may contact your phone, without the need for a "splitter".

Enough of what's on the outside, what's on the inside of this thing? And by the way, who makes it?

It's built by "ADC" (who?) which is a subsidary of BSR, no small company, themselves (and I've also recently seen a Compact Disk player made with the ADC name on it). It's officially known as an ADC MD1202 300/1200 baud telephone modem. Its commands, in addition to accepting Hayes-types, include such little niceties as a "W" command, for "Wait for Dialtone", as opposed to the ",,," commas of Hayes. If you work in a building with a "dial-9-for-an-outside-line", or use a discount long-distance service, you'll really appreciate this.

Another nice little touch that I've come to appreciate, as I frequently log onto several very busy bulletin boards, is the auto-redial feature. I know that a number of terminal programs include this as a feature, but since ST-Talk doesn't, and it's my program of choice, I like this. If a busy line is detected, the modem disconnects after about 10 seconds, sends a message to the screen, reading "Busy. Will redial in 30 seconds", and waits. If I choose not to pursue this system at that time, I simply strike any key, and I get a message of "No Carrier". There are also several other on-screen messages that I've never seen used by a Hayes, which seems based on letting you know that the modem is *doing* something, even if you have the speaker turned off or low in volume.

Another item that I have noticed is that the sound seems to be clearer from the speaker of the ADC than from the Hayes modems that I have used. This does, however lead me to one of my complaints about the modem. It "hisses" continually, while I am on-line. I suppose that I could simply turn the volume all the way down, if it really bothered me, but I like to hear the dial tone, and the ringing, carriers, etc. Although I have not experienced a wrong number in quite a while, calling at the late hours that I generally use, I want to know right away, should there be a malfunction, causing me to dial someone's voice line at 3 A.M.! A command of "M2" may be issued to turn the modem's speaker "on", full-time, if

you *really* want to hear two computers "talk" at 1200 baud! "M0" turns the speaker off completely, while "M1" is the default, turning it on only during dialing, and while waiting for a connection.

Another feature is the built-in "HELP" menu, called up by issuing a "AT@H1". This brings up a screen containing a dozen of the main commands used by the modem, including such things as "A=answer phone & connect", "O=return to online", "Z=reset", etc. Handy, especially if this is your first modem, or you are an infrequent user. My only reservation on this is that if you know how to obtain the "HELP" screen, you *should* already know the most common commands!

Well, I suppose that the above features should be enough to convince you that if money is a consideration, and you'd like to look at something besides a Hayes, the ADC is well worth the look...even if I didn't mention the built-in clock...! Whazzat? Yep...The command "AT@T=MM/DD/HH/MM/(A or P for AM or PM)" sets the clock. From then until power is removed, the request for time is done with a "AT@T". If you want a time indicator, and your choices had been either a Hayes clock, or a Prometheus modem, now you have another alternative!

If you still haven't decided, then there's little else that I can say to help you make up your mind. Suffice to say that I own one, and I've let my Hayes 300 out on loan! I'm quite pleased, and with a one-year warranty, I don't forsee any unusual problems coming up. If I've whetted your interest, the place to order it is DAK Industries, Inc., 8200 Remmet Ave., Canoga Park, Ca. 91304, or call, toll-free, at 1-800-325-0800. The price is $169 plus $6 postage and handling, and the Order Number is 4334.

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SPEEDSCRIPT 3.0

Reviewed by Tom Jarrell and Bill Schadt

SPEEDSCRIPT is a public domain word processor that is easy to learn, easy to use, and has a wide variety of useful features. The original version of SPEEDSCRIPT was written by Charles Brannon for the Commodore 64. Version 3.0 for the Atari, also written by Mr. Brannon, was published in the May 1985 issue of COMPUTE magazine. Version 3.0 of the program occupies only 8K of RAM, and the remaining RAM on an 800XL can hold 27,904 text characters. For comparison purposes, the "Letter Perfect" word processor from LJK Enterprises, Inc. has 28,671 bytes available for text, and "Atari Writer" has a 20,848 byte buffer.

The SPEEDSCRIPT program uses a redefined character set which produces large and easy to read screen characters that have true lower case descenders. The screen is forty columns wide, and the top line of the screen is reserved for commands and the display of status information. An 80 column wide version of SPEEDSCRIPT is provided with the Omniview 80 column card.

SPEEDSCRIPT has one feature that I have never seen in any other word processor. The user can elect to replace the false spaces with a character that appears on the screen as a tiny dot. The false spaces are then visible to the user which makes screen editing much easier. Only true spaces, and not the tiny dots are printed.

Many other commands are available and allow the user to change: the background color, text luminance, screen width, and the case of a letter. Transposing characters and displaying the remaining memory capacity can be accomplished by striking one key in combination with the CONTROL key. In addition to providing standard cursor movements and insert/delete functions, SPEEDSCRIPT includes: (1) global search and replace, (2) cut and paste, and (3) multiple copies of user defined text blocks.

An excellent mini-DOS built into SPEEDSCRIPT allows the user to see the disk directory, format a disk, lock or unlock a file, rename or delete a file, and change the default disk drive number. Files created by SPEEDSCRIPT are totally compatible with Atari DOS. The disk file load function is available from the menu and the text editor. The latter allows files to be merged directly into the buffer.

SPEEDSCRIPT has the normal array of print formatting features: (1) margins can be set, (2) headers and footers added, (3) pages numbered automatically, (4) line spacing adjusted, (5) forced page breaks defined, (6) files linked, (7) text centered, and (8) individual lines of text blocked against the right margin. Because SPEEDSCRIPT was not written for one specific type of printer, the user must imbed into the text the special printer codes which enable or disable special printer features like underlining, boldfacing, or alternate printer fonts.

SPEEDSCRIPT lacks several functions that may be important to some users: (1) tab setting, (2) right margin justification, and (3) double column printing. The user will have to remember or store in separate disk files all the special codes for the printer functions desired.

Several methods can be used to obtain a copy of SPEEDSCRIPT. The program can be typed into the computer from the printed listing in either the May 1985 issue of COMPUTE magazine or the COMPUTE book entitled, "SPEEDSCRIPT: The Word Processor for the Atari." The program is long, and typing will be time consuming. Copies of COMPUTE magazine and the disk for one issue can be purchased directly from COMPUTE. I recommend that the user read the SPEEDSCRIPT article in the May 1985 issue of COMPUTE magazine to thoroughly understand how the program functions.

SPEEDSCRIPT has a very high performance to price ratio high. The program is highly recommended for any Atari user who does not have access to a professional grade word processor.

NOVATARI

Northern Virginia Atari Users Group

President	Ed Seward	(703) 960-6360
Vice President	Robert Zimman	(703) 476-5924
Treasurer	Curt Sandler	(703) 734-9533
Secretary	Georgia Weatherhead	(703) 938-4829
Program Chairman	Dave Meyer	(703) 455-7145
Public Domain Ed	Gary Purinton	(703) 476-8391
Disk Librarian	M. Evan Brooks	(703) 354-4482
NOVATARI Prog. Exch.	Jim Stevenson	(703) 378-4093
Membership	Earl Lilley	(703) 281-9017
Acquisitions	Palmer Pyle	(703) 354-4482
Publicity	Terry White	(703) 560-7726
SYSOP	Ted Bell	(703) 455-5312
Bulletin Board	ARMUDIC	(703) 569-8305

Special Interest Groups

BEGINNER'S SIG	Gary Purinton	(703) 476-8391
ST SIG	Evan Wallace	(703) 620-9144
TELECOM SIG	Dick Knisely	(703) 476-0529

NOVATARI March Meetings

3/6: STERLING CHAPTER meets in Sterling Community Center Annex from 7:30-10:00 (first Thursday of each month). Contact Palmer Pyle (437-3883) for more info.

3/9: NOVATARI MAIN MEETING is held at the Washington Gas Light Building, 6801 Industrial Road, Springfield VA (second Sunday of each month). Take 495 to East on Braddock (620) to South on Backlick (617). Left on Industrial Road (by a light with a Texaco station on the corner). Washington Gas Light is second building on the right (big parking lot, go right in front door). **TELECOM SIG** meets at 5:30. **BEGINNERS SIG** meet at 6:00. ST demos from 6-7. Main meeting starts at 7:00.

3/16: BURKE CHAPTER meets at the Oaks Community Center from 7:30 - 9:30 (third Sunday of each month). Contact Ray Cwalina (250-3856) for more info.

3/19: VIENNA CHAPTER meets in room 32 at the Vienna Elementary School from 7:30 - 8:45 (third Wednesday). Contact Dave Heagy (281-9226) for more info.

3/23: ST SIG meets at Washington Gas Light from 7:30 - 9:30 (fourth Sunday of each month). Contact Evan Wallace (620-9144) for more info.

3/26: GREENBRIAR CHAPTER meets at 4112 Majestic Lane, Greenbriar VA from 7:30 - 9:30 (fourth Wednesday of each month). Contact Jim Stevenson (378-4093) for more info.

3/26: RESTON CHAPTER meets in the Reston library from 7:00 - 9:00 (fourth Wednesday of each month). Contact Robert Zimman (476-5924) for more info.

??? - MT VERNON/HYBLA VALLEY CHAPTER now forming. Contact Ron Peters (780-0963) for more info.

Membership Dues are $15/year which includes a subscription to CURRENT NOTES and access to ARMUDIC. You may join at the main meeting or any chapter meeting or by sending $15, payable to NOVATARI, to Earl Lilley, 281 Ninovan Road, S.E., Vienna, VA 22180.

President's Report

I'd like to say hello and take this oportunity to thank the other officers, committee chairmen and volunteers for continuing to contribute their time and efforts to NOVATARI.

I suppose many of you are wondering what I would like to see in the next year. First, I would like to see the several programs that Joe Waters started continue to flourish. The most visible of these being the formation of local chapters. If you are interested in forming one in your area, call me at 960-6360. (Please call before 10 PM so as not to wake someone up.) Another goal of mine is to see that both the 8-bit and 16-bit Ataris are supported in such a way that neither group feels slighted. Last of all I would like to see if NOVATARI can do the nearly impossible and have an ATARIFEST in the Fall that is better than our first one. Well I better get on with the business portion of this thing.

Program Report. The featured speaker at our February meeting was Chris Amori from Applied Computer Associates whose topic was the features of some of the popular printers. If Atari gets the SIG set up on The Source in time then we hope to have a return visit of Nancy Beckman from The Source at our March meeting.

Library Report. There are two new disks in the works and will hopefully be available in March. One is a game called 'Surf's Up'. The other is another ACTION! disk -- if Ed finishes putting it together. Most of the source code on this disk comes from two places; the OSS BBS and Bill Aycock a NOVATARI member in North Carolina. Among the files so far is the source code for the 'Star Wars' text effect "FADE" and a routine to simulate multitasking.

AURA

Atari Users' Regional Asasociation

President	John Barnes	(301) 652-0667
Vice President	Bill Schadt	(301) 622-1547
Treasurer	Richard Stoll	(301) 946-8435
Correspondence Sec.	Marshall Abrams	(301) 588-1005
Membership Chairman.	William Pimble	(301) 341-9572
Disk Librarian	Rick Kellogg	(301) 277-7536
Hardware Coordinator	Moe Sherman	(301) 593-1076
CURRENT NOTES Liason	Rochelle Follender	(301) 530-0243

Meetings are held on the first Thursday of every month, 7:00 pm (Library Activities), 7:30-9:00 pm (Program) in the Temple Israel Social Hall. Temple Israel is located in Silver Spring, at 420 E. University Boulevard, between Colesville Road (Route 29) and Piney Branch Road (Route 320). It is on the left side of University Blvd., going from Colesville road to Piney Branch Road. Using the Beltway, use Exit 29B, go past the

first traffic light (Franklin Avenue) and after about 1/2 mile make a left turn off University Blvd., directly into the Temple Israel grounds. Drive around the building to the front, but look out for the speed bump in the back. There is plenty of parking space. There are two buildings connected by a walkway. Go into the building on the left. The Social Hall is immediately on the left. Call Richard Stoll if there are any questions about the meeting place and how to get there.

Membership Dues are $15/year which includes a subscription to CURRENT NOTES. You may join at any meeting or by mailing your check, payable to AURA, to Treasurer, AURA, P.O. Box 7761, Silver Spring, MD 20907.

President's Report

The Atari Users Regional Association (AURA) is sponsoring a full-day class designed to introduce beginners to the Atari 8-bit computers, Atari BASIC and Disk Operating System (DOS). A schedule and outline of subjects to be discussed are shown below. The class will be held from 9:00 am until 5:00 pm on Sunday, April 6, 1986 in the Gorman Building Auditorium at Georgetown University Hospital. The course director is Bill Schadt, Vice-President of AURA and a member of the Georgetown faculty. The cost of the class is $15.00 for WAACE members and $20.00 for non-members. Checks made out to AURA for the registration fee should be sent before March 24 to Bill Schadt, 11809 Gordon Road, Silver Spring, MD 20904. Be sure to include your name, address, home and business phone numbers, and the name of your local users group. Registration on the day of the class will be $30.00 for all persons and will be accepted only if space is available. Copies of text and disks distributed to the class may not be available for late registrants, so please register before March 24.

The text used for the class will be Your Atari Computer by Lon Poole, et. al., published by Osborne/McGraw Hill. Copies of this book are available at several local book and computer stores. Please bring a copy of the book with you to the class. Limited copies of the book will be available for purchase when the class meets.

Georgetown University Hospital is located at 38th and Reservoir Road, N.W. in Washington, D.C. Enter the grounds of the Medical Center using Entrance #1 off Reservoir Road. Ample free parking should be available in employee lot A or on Reservoir Road. A parking garage (not free) can be used by entering at Entrance #2.

The Hospital consists of three connected buildings: the main hospital facing Reservoir Road, the Bles Building, and the Gorman Building. The auditorium is in the Gorman Building just inside the ground level entrance. The auditorium has comfortable seating for 125 people and is equipped with an overhead color monitor which projects a ten foot wide image onto a flat screen which can easily be seen. A cafeteria near the Gorman Building will be

available for lunch and vending machines are located next to the auditorium.

If you have questions please call Bill Schadt at his office on (202) 625-2107 or at home on (301) 622-1547. Note that AURA reserves the right to cancel the class if fewer than 20 people register before March 24. If the class is canceled, full refunds will be made promptly.

SCHEDULE

9:00 INTRODUCTIONS
9:15 CONNECTING THE SYSTEM: computer, TV, printer, interface, disk drive(s), switches and modem.
9:45 START UP: Booting the system with and without BASIC and a disk drive.
10:15 BREAK
10:30 USING A DISK DRIVE: what is DOS, commands on the DOS 2.5 menu, disk file manipulation, DOS.SYS, DUP.SYS and MEM.SAV
12:00 LUNCH
1:00 WHEN DOS 2.5 IS NOT ENOUGH: RAM disks, enhanced and double density, higher speed, additional functions, other choices for DOS.
2:15 INTRODUCTION TO ATARI BASIC: A survey of the BASIC commands, arithmetic functions, strings and arrays, logical operators, trigonometric functions, INPUT and OUTPUT, and error messages.
3:00 BREAK
3:15 INTRO TO BASIC CONTINUED
4:30 SUMMARY and QUESTIONS
5:00 ADJOURN

NCAUG
National Capital Atari Users' Group

President..........	Frank Huband..........	(703) 527-4770
VP/Secretary........	Peter Kilcullen.......	(202) 296-5700
Treasurer...........	Allen H. Lerman.......	(301) 460-0289
Membership..........	Gerald Whitmore.......	(301) 459-6164
Disk Librarian......	Mike Pollak...........	(703) 768-7669
Tape Librarian......	Bruce Ingalls.........	(703) 430-5287

Meetings are held on the third Tuesday of every month, from 5:30 - 8:30 pm, in room 543 at the National Science Foundation offices, 1800 G. Street, NW, Washington, DC. The closest subway stop is Farragut West, on the Blue and Orange lines. Take the 18th Street exit, and walk south (against the flow of traffic) down 19th Street for three blocks to G street. The building, on the corner of 18th and G, can be identified by a sign for the Madison National Bank on the corner. Parking is available in the building for a fee. The front entrance is on the west side of 18th street, between F and G.

Membership Dues are $15/year which includes a subscription to CURRENT NOTES. Join at the meeting or by sending a check, payable to National Capital Atari Users' Group, to Allen Lerman, 14905 Waterway Drive, Rockville, MD 20853.

WACUG
Woodbridge Atari Computers Users' Group

President..........	Bill Parker..........	(703) 680-3041
First VP...........	Cecil Alton..........	(703) 670-4842
VP-Education........	Bob Gaffney..........	(703) 590-3433
VP-Liaison..........	Tim Mitchell.........	(703) 221-7722
Secretary...........	Bill Alger...........	(703) 455-9565
Treasurer...........	Curt Pieritz.........	(703) 494-3704
Librarian...........	Arnie Turk...........	(703) 670-2547
Past President......	Jack Holtzhauer.......	(703) 670-6475

Meetings are held, usually, on the third Tuesday of the month from 7:00-10:00 pm in the Community Room, Potomac Branch, Prince William County Library, Opitz Blvd., Woodbridge, VA. Exact dates: Mar 17 (3rd Monday), Apr 15, May 20, Jun 17. Entering Woodbridge from either North or South on Route #1, proceed to the intersection of ROute #1 and Opitz Blvd. (adjacent to Woodbridge Lincoln-Mercury). Turn west on Opitz and take first left turn into the library's parking lot. The Community Room is located to your left immediately upon entering the main building.

Membership fee is $10/year plus $1 monthly dues which includes a subscription to CURRENT NOTES for members in good standing. Join at any meeting or send check, payable to WACUG, to Bill ALger, 7792 Newington Woods Drive, Springfield, VA 22153.

CPM
Capital Pro Micro-Users

President..........	Bob Kelly............	(301) 839-6397
VP-Finances.........	Frank Jones.....	(301) 593-1056
VP-Communications...	Mike Abramowitz.......	(301) 983-2363
VP-Prog.Affairs.....	Joe Catterino.........	(301) 757-1329
Disk Library........	Joe Barbano...........	(301) 464-0757
Sysop/RBBS..........	Frank Huband..........	(703) 276-8342

CPM Meetings: Capital Pro Micro-Users meetings are held on the fourth Tuesday of each month at the Public Library in Oxon Hill, Maryland. The Library is located near the Woodrow Wilson Bridge just off the Washington beltway. From Virginia via the Woodrow Wilson Bridge, stay on the beltway to Maryland exit #4 West (St. Barnabas Road). St. Barnabas Road merges with Oxon Hill Rd. (right turn at end of exit ramp); proceed 1/4 mile and Library will be on your left. The meetings are held each month in the MEETING ROOM. The Library telephone number is 301-839-2400.

March meeting: After the February meeting which concentrated upon a number of new software programs available for the Atari 520ST, we hope to be able to demonstrate the new one (1) Megabyte ST just announced by Atari in March.

Membership Dues: If you have not paid, member dues ($3) for 1986 and the subscription fee ($12) to CURRENT NOTES are past due. Deduct $1.00 for every month you are late in subscribing to CURRENT NOTES. Please ease the Treasurer's time requirements by submitting your payments ASAP. Remember, it is a voluntary position and that we have a new Treasurer. Mail your $15 to: Frank Jones, 416 Hillsboro Drive, Silver Spring, Md. - 20902.

Library Disks: The CPM library currently consists of 18 cp/m 2.2 disks and all ANALOG disks from issues #20 thru #38. Library and ANALOG disks are available for purchase at monthly meetings. The cost of each disk is $3.00 plus $1.50 shipping for each two (2) disks or fraction thereof ordered by mail. Please allow two weeks for processing mail orders. Mail orders should be addressed to: Mr. Joe Barbano, Disk Librarian, 3600 Earlston Court, Mitchellville, MD. 20716. Make checks for library disks payable to: Capital Pro Micro-users.

FACE
Frederick Atari Computer Enthusiasts

President	Mike Kerwin	(301) 845-4477
Vice President	Bill Austin	(304) 263-1867
Treasurer	Buddy Smallwood	(301) 432-6863
Librarian	Bob Martin	(301) 848-7619
Secretary	John Maschmeier	(301) 271-2470
SYSOP	Sam Yu	(301) 662-5586
FACE BBS		(301) 694-8983

Meetings are held on the fourth Tuesday of each month from 7:00 pm to 9:30 pm in Walkersville High School, MD Route 194, one mile north of MD Route 26 (Liberty Road).

Membership Dues are $20/year per family and include a subscription to CURRENT NOTES. Join at the meeting or send your check, payable to FACE, to Buddy Smallwood, PO Box 300, Keedysville, MD 21756.

SMAUG
Southern Maryland Atari Users' Group

President	Sam Schrinar	(301) 843-7916
Secretary	Dorothy Leonardi	(301) 839-1363
Treasurer	Bob Barnett	(301) 934-2617
Disk Librarian	Jim Sanner	(301) 884-5840

Meetings are held on the second Thursday of each month at 7:30 pm in the John Hanson Middle School in Waldorf, MD. Take MD Route #5, proceed about 1/2 mile East of the intersection of Route 301 and take the first left past the Kinney shoe store to the school.

Membership Dues are $15/year which includes a subscription to CURRENT NOTES. Join at any meeting or send your check, payable to SMAUG, to Bob Barnett, P.O. Box 612, Waldorf, MD 20601.

MARCH, 1986

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Washington Area Atari Computer Enthusiasts

I would like to SUBSCRIBE to CURRENT NOTES _______

I would like to join the following WAACE club:
AURA__ CPM__ FACE__ NCAUG__ NOVA__ SMAUG__ WACUG__

Name: ______________________ Phone: ____________

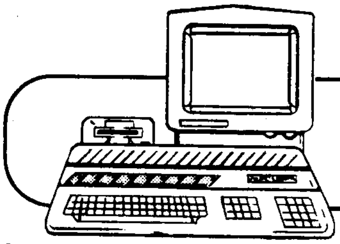
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for the ATARI ST

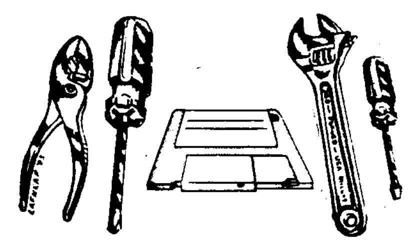
UTILITIES from our computer toolbox

MICHTRON UTILITIES *Utility by Timothy Purves*
Change file contents, attributes, file and volume names, or *any individual bytes on disk!* Just type the new data or click on selector buttons. To restore deleted files or lost data, simply inspect the data and click on a button to save or reject it. You can also format individual disk tracks, and copy individual sectors to repair damaged disks! A new 10 sector format utility lets you add 80K of storage capacity to your disks!
For the Atari ST $59.95

M-DISK *RAM-Disk by Timothy Purves*
M-Disk gives you the power of a super-fast, incredibly tough disk drive with-out the extra cost! *M-Disk* isn't a hardware device, but software utility. It makes a portion of your computer's memory resemble the data on a disk drive and makes the operating system recognize it as a hardware device, giving you the equivalent of an extra disk drive!
For the Atari ST $39.95

MI-TERM *Communications Utility by J. Weaver Jr.*
Far beyond the simple functions of other terminal software, *Mi-Term* provides DFT, XMODEM, and ASCII file transfers, 300/1200/9600 baud support, printer echo, automatic capture buffer, connect-time clock, automated logons and commands, and much more. With simple commands and the power of GEM, *Mi-Term* is as easy as "point and click".
For the Atari ST with modem $49.95

SOFT SPOOL *Printer Utility by Timothy Purves*
When printing files, your computer is dead weight: waiting for the printer to finish the job. With *Soft Spool*, your computer can think and print at the same time! Instead of going to the printer, printed data waits in *Soft Spool's* RAM buffer. You can then use your computer normally as the spooler feeds its data to your printer between tasks.
For the Atari ST $39.95



CALENDAR *by J. Weaver Jr.*
From almost anywhere in GEM, *Calendar* is ready to display or print calendars of any year and month and to store reminder messages for any date, any time: from 1980 to 2099. Set "alarms" on any or all messages. Alarms and hourly chimes appear even when *Calendar* isn't on the screen. Using *Calendar* is as easy at "point and click".
For the Atari ST $29.95

MI-DUPE *Copy Utility by Timothy Purves*
Copying your data files can be slow and tedious. Some programs are even copy-protected to stop you from making any duplicate at all. *Mi-Dupe* makes files duplications faster, easier, and helps you obtain archive copies of "protected" software.
For the Atari ST $29.95

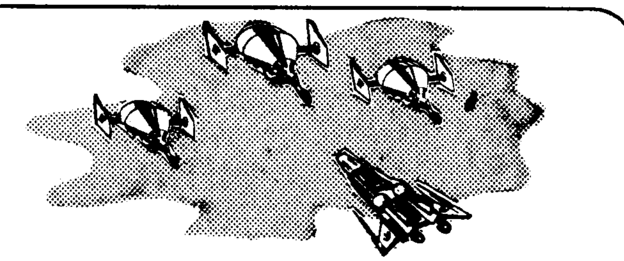
BBS *Bulletin Board System by Timothy Purves*
MichTron presents a high quality Bulletin Board System for the ST. This many featured BBS has 16 special interest areas, supports XMODEM, DFT, and ASCII up- and downloading, bulletins, message base and much more. Call MichTron's BBS at (313)-332-5452 for a trial run.
For the Atari ST $49.95

GAMES from beyond imagination

TIME BANDIT *Arcade Game by Bill Dunlevy & Harry Lafnear*
Battle Evil Guardians as you collect the Treasures of Time. Two can play simultaneously, each with his own view! Each of 20 unique maps has over 15 levels and is a complete game in itself! Explore medieval dungeons, western frontiers, and future worlds all in one game. Full color graphics, unique creatures and 3D-style terrain for each Time, beautiful scrolling landscapes, detailed animation, thrilling sound, hundreds of screens: *the conquest of Time and Space awaits you!*
For the Atari ST with color montitor $39.95

MUDPIES *Arcade Game by Phil MacKenzie & Jeffrey Sorenson*
When the circus came to town, Arnold wanted in on the fun. He threw mudpies at the clowns but they didn't think it was so funny. They threw things back and tried to catch him. Soon the place was a *REAL* circus!
Keep Arnold from harm by using mudpies to ward off angry clowns. Challenge rounds, special prizes, mud-slinging rounds, amazing music and sound effects make this a great addition to your game collection!
For the Atari ST with color monitor $39.95

GOLD RUNNER *Arcade Game by Dave Dies*
As Commander of the Load-Runners, your must infiltrate underground mines in search of gold and adventure. Use wit and skill to escape with the loot. Dozens of screens with narrow paths, steep ladders, dangling ropes, and hidden traps will challenge your skill and test your logic!
For the Atari ST with color monitor $39.95



LANDS OF HAVOC *Arcade Game by Microdeal*
The dark power over the land is almost complete. The only hope lies in finding the hidden magic of the good sorcerer, High Vanish. As Sador, the reptile warrior with a human heart, you must free Haven from the Dark Lords. You have only your powerful body, your intelligence, and the secrets High Vanish left behind. 2,000 screens hold many surprises.
For the Atari ST with joystick $19.95

FLIP SIDE *Strategy Game by Ken Olson & Phil Hollyer*
You'll flip over this Reversi-type game! Animated graphics bring the board to life as captured pieces flip themselves. Play against another person, or against the computer in one of six skill-levels: from novice to expert. The computer can show all available moves, or suggest one for you. You can switch sides with the computer, and even edit the board!
For the Atari ST $39.95

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